JAN 2 '87

I 29.2: Ac 1/3

report on the 1984-1985 monitoring of construction at fabbri memorial

ACADIA

NATIONAL PARK / MAINE

2a/9a

REPORT ON THE 1984-1985
MONITORING OF CONSTRUCTION AT FABBRI MEMORIAL
ACADIA NATIONAL PARK, BAR HARBOR, MAINE

Package No. 152

Diane Lee Rhodes

Appendix II: Macrofloral Analysis

Linda J. Scott

U.S. Department of the Interior / National Park Service
Denver Service Center, Northeast Team, Denver, Colorado
June, 1986

BLANK PAGE

ABSTRACT

Archeological investigations were conducted at the Fabbri Memorial area of Acadia National Park in the summer and fall of 1983. This work was in conjunction with initiation of package no. 152, a development proposal for new visitor facilities (comfort station, sewage disposal, utilities, picnic areas, trails, and parking) in the vicinity of the memorial. Following field work and laboratory analysis, a final archeological report was prepared (Rhodes and Naglich 1985).

The Fabbri Memorial area was determined eligible for the National Register of Historic Places because of its important role in World War I radio technology development. National Register forms were completed and appended to the 1985 archeological report (Rhodes and Naglich 1985). Insofar as possible, the comprehensive plan for proposed development (package no. 152) was designed to avoid known or potential archeological resources. Cultural resources compliance was completed prior to implementation of the final plan.

Archeologists monitored the project construction, which began in October 1984. Subsurface features exposed during construction included foundations, manholes, portions of the water tower support pads, and what was thought to be a corner of a spark tower base. A number of electrical, water, and sewer lines, conduits, and pipes were found during the project. Features were photographed, mapped, and recorded; artifacts were collected and/or documented. For the most part, features and artifacts found during construction were associated with the Otter Cliffs Naval Radio Station or with historic sites adjacent to the utility and waterline trenches. Most known site features were not impacted during construction. Portions of two foundations, two of the water tower support pads, a spark tower base, a concrete electrical duct, and two manholes were removed after documentation. Exposed wiring, conduits, piping, and other extant features were reburied in place.

Two historic sites near the utility line on Otter Cliffs road were recorded during construction equipment downtime, helping to complete the park's cultural resources data base and to update Maine's archeological and historical site files. Although not impacted by construction activities occurring in the vicinity of the Fabbri Memorial, two undisturbed manholes (features 7 and 66) were also recorded during the construction project.

The monitoring program enabled archeologists to ground-truth the historic maps, gain additional knowledge of the subsurface resources in this area, and mitigate part of the impact of construction activities upon the site. Findings will aid in interpretation of the park's cultural resources. General information on soil strata and composition was also recorded in areas where no resources were uncovered by the trenching. This data will be invaluable for future archeological work.

CONTENTS

Page

INTRODUCTION..1

BACKGROUND..3

PROJECT SETTING...3

PROJECT DESCRIPTION...10

SUMMARY OF AREA PREHISTORY..................................10

BACKGROUND OF AREA HISTORY..................................10

PREVIOUS INVESTIGATIONS.....................................13

RESULTS OF MONITORING...15

INTRODUCTION..15

UTILITY LINE EXCAVATIONS--PARK BOUNDARY TO FISHHOUSE ROAD........15

UTILITY LINE EXCAVATIONS--FISHHOUSE ROAD TO ACCESS ROAD..........23

PROJECT WORK AT FABBRI MEMORIAL SITE........................26

CONCLUSIONS...55

RECOMMENDATIONS...59

ACKNOWLEDGMENTS...60

REFERENCES 61

PERSONAL COMMUNICATION..63

APPENDICES..65

APPENDIX I--TABLES..65

1. ARTIFACTS LOCATED DURING 1984-1985 CONSTRUCTION MONITORING.66

2. FEATURES LOCATED DURING 1984-1985 CONSTRUCTION MONITORING..70

APPENDIX II--RESULTS OF MACROFLORAL ANALYSIS, FEATURE 60.........73

LIST OF TABLES

Page

1. ARTIFACTS RECOVERED DURING 1984-1985 CONSTRUCTION MONITORING......66

2. FEATURES LOCATED DURING 1984-1985 CONSTRUCTION MONITORING.........70

LIST OF FIGURES

Page

1. Acadia National Park location map....................................4
2. Development plan for the Fabbri Memorial site.................5
3. Schematic map of utility line excavations, 1984-1985......7
4. Features found during testing and monitoring, 1983-1985..in map pocket
5. View looking west toward intersection of Ocean Drive and the access road..9
6. Central meadow, looking south from access road................9
7. Utility line trench, looking south along Otter Cliffs road...16
8. Feature 51, boundary line historic site, and feature 77, cut granite blocks...18
9. Looking northwest toward corner of foundation (feature 51)...19
10. Northwestern corner of feature 51 foundation.................19
11. Ownership of lots, Otter Point, Maine, before 1930...........20
12. Otter Point, 1887...21
13. Looking north along Otter Cliffs road at excavation for utility line near park boundary and features 51 and 77.......22
14. Looking down and east at feature 77, granite blocks, in profile of utility line trench...............................22
15. Feature 49, Fishhouse road historic site.....................24
16. Feature 49, looking north at profile of cellar and foundation wall...25
17. Feature 49, looking east at linear arrangement of red granite blocks...25
18. Excerpt from sketch showing lots at Otter Creek Point........26
19. Feature 53, electrical line in metal pipe or conduit.........29
20. Close-up of feature 53, electrical line......................29

Page

21. Sample of lead-covered electrical wiring....................30

22. Looking down and northeast (toward the access road) at feature 52, north end of foundation..................................30

23. Looking down and southwest at southwest corner of feature feature 55, foundation....................................32

24. Looking down and southwest at feature 56, narrow wall........32

25. Top and side profiles of base of split ceramic electrical insulator..33

26. Profiles of half of a double in-line electrical insulator.....33

27. Ceramic-handled brass letter opener...........................35

28. Looking east/southeast at backhoe excavation for the new comfort station..35

29. Aqua glass insulator from comfort station excavation.........37

30. Looking down and north at feature 59, water pipes and intake filter..37

31. Looking north toward access road at brush clearing in central meadow area...38

32. Plan view of feature 59, water pipes in central meadow.......39

33. Feature 60, charcoal and ash lens............................40

34. Profile of east wall of waterline trench.....................41

35. Looking northwest at features 61 and 61A.....................41

36. Looking down and southeast at exposed corner of feature 62, brick-lined electrical manhole.................................43

37. Looking north at remnants of feature 63, concrete duct for electrical conduit..43

38. Waterline trench along north side of access road.............45

39. Looking north at electrical conduit outlets from feature 64..45

40. Interior plans and profiles of feature 7, electrical manhole..46

41. East interior wall of feature 7...............................47

Page

42. North interior wall of feature 7....................................47

43. Looking west at plan view of filled-in manhole, feature 66...48

44. Looking southeast at remnants of southeastern pad for water tower...48

45. Soda water bottle...49

46. Whiteware bowl found in sewage disposal area..................49

47. Looking east at water storage tank...........................51

48. Looking west toward Ocean Drive at grading for sewage disposal mound...51

49. Looking east at feature 78, pump house (?) foundation.........53

50. Looking north at feature 74, concrete steps/support for Barracks B porch..53

51. Looking southeast at feature 70, ferrous pipe in parking lot area...54

INTRODUCTION

Early in 1983 Acadia package no. 152 was initiated to build new visitor facilities at the Fabbri Memorial. Research began during the spring and summer of that year. Following this initial work, areas that would be impacted by construction were surveyed, the visible cultural resources were mapped, and shovel testing was conducted. These procedures resulted in the location of 50 features that are related to three different periods of human land use--the World War I Otter Cliffs Naval Radio Station, a nineteenth century summer home that was converted to the Mount Desert Island Country Club, and pre-nineteenth century historical occupations. Features were drawn, mapped, described, and photographed, and selected artifacts were surface-collected from historic dumps and activity areas. These artifacts and those found in the shovel test pits were analyzed, and a report was completed (Rhodes and Naglich 1985).

While this report is intended to stand on its own merits, it also supplements previous archeological work at the Fabbri site. The reader is referred to the earlier report (Rhodes and Naglich 1985) for more extensive coverage of area prehistory, history, natural setting, methodology, previous investigations, and archeological features.

Because the Fabbri Memorial site* was determined eligible for listing on the National Register of Historic Places, nomination forms were completed and ground-disturbing activities were monitored during construction. The following report summarizes the results of monitoring construction of the visitor facilities from October 1984 to May 1985. Photographs of construction activities are included in this report to document the amount, nature, and location of ground disturbance that occurred during construction. It is hoped that future archeological work at this site will benefit from these data.

Results of the archeological testing for this project were instrumental in effecting a number of changes in preliminary development designs. Designers shifted the picnic areas and trails, once proposed for the entire northern part of the site, to an area formerly occupied by a swan pond where there were no significant cultural features or materials reported (Rhodes and Naglich 1985). Because the archeological testing found the remains of Barracks B, a garage, a sewage system, and several small structures in the eastern portion of the site, most of this area--with the exception of the access road corridor--was left untouched.

Much time and effort went into routing utility and waterlines to minimize disturbance of cultural resources. Along the Otter Cliffs road, a trench for the new utility line was excavated in the road shoulder and the ditch. None of the three historic sites adjacent to the road corridor (features 33, 49, and 51) were seriously impacted by the lines, nor did they intersect any significant cultural resources until reaching the pump station area, south of the access road that links the Otter Cliffs road with Ocean Drive.

---

*For purposes of this report, the area included within the boundaries of the Otter Cliffs Naval Radio Station in 1934 will be known as "the site".

Testing south of the access road had not located any of the foundations later uncovered by construction activities. Prior to construction it was thought that grading to install the 1940s ranger station, septic tank, and parking had obliterated any remnants of the radio station. The number, depth, and size of the features found south of the access road were unexpected, and several were accidentally encountered by backhoe excavation. However, most of these features were left in place, and the new electric line was run beneath them. Most of the historic electrical, water, and sewer lines were reburied in place following excavation and documentation.

In the summer of 1984, a new well was drilled close to the eastern edge of the site, about 200 feet north of the access road. Originally, the well was to be sited about 300 feet north and 200 feet west of the access and Otter Cliffs roads respectively. However, the 1983 testing program revealed significant numbers of historic artifacts and features in this area. To minimize the impacts on cultural resources from well drilling and waterline excavation, the designer, supervising archeologist, and park personnel agreed to place the well as close to the Otter Cliffs road as possible. The waterline trench could then be run in the previously disturbed road corridor. Because of topographic and engineering constraints, the turnout for the old gravel road leading into the radio station was the logical choice for the well site. Other than the roadbed--itself a historic feature--no artifacts or features were reported from the well or waterline excavation line until the vicinity of the access road was reached.

Along the access road, the new waterline paralleled the historic concrete duct that formed part of the radio station electrical distribution system. Only two short sections of the duct had to be removed to continue the waterline southward toward the new comfort station.

Unfortunately, a subsurface network of these concrete ducts, and historic water and electrical lines crisscrossed the central portion of the site, and it was impossible to totally avoid all of them. On the other hand, manholes damaged by the waterline trenching activities were nearly identical in size, shape, and construction to several others in the vicinity, one of which was fully recorded through measured drawings and photographs.

Construction work related to the new sewage system destroyed one of four concrete water tower footings and damaged another. Again, however, of the original four footings which were nearly identical--three were reburied in place.

The following archeologists were involved in the monitoring project: Ellen Seidel, October 27-November 2, 1984; Diane Rhodes, November 5-16, 1984; Dana Linck, November 27-December 1, 1984; John Ravenhorst, December 5-13, 1984; Ellen Seidel, April 30-May 6, 1985; and Beth Acuff, May 6-10, 1985. Bad weather, scheduling conflicts, and equipment downtime caused numerous project delays, and necessitated most of these personnel changes.

BACKGROUND

Project Setting

Acadia National Park is on Mount Desert Island, about two-thirds of the way up the Maine coast from the Massachusetts border (figure 1). During this project, new visitor facilities (included in package no. 152) were built at the Fabbri Memorial site on the west side of Otter Point, at the southeastern tip of the island. The project included accompanying underground utility lines that were run along the Otter Cliffs road from the park boundary to the Fabbri Memorial area (figures 2 and 3).

The Fabbri Memorial area was originally the site of the Otter Cliffs Naval Radio Station, which was built at the beginning of World War I (see figure 4, in map pocket). The area's easy accessibility by sea, the underlying granite formations and soil composition that gave the island unique radio reception qualities, and its strategic Atlantic coast location with no intervening geographic features or structures blocking European radio transmission, made this site ideal.

Since the razing of the radio station and construction of Ocean Drive in the mid-1930s, only a few modest changes have been made in the Fabbri site. In 1939 a granite marker commemorating Lieutenant Alessandro Fabbri, commander of the radio station during World War I, was placed atop a small berm just west of Ocean Drive. A parking lot was built west of the memorial, just above the sharp drop-off to Otter Cove. On the east, the monument is separated from the rest of the site by Ocean Drive (figure 5). This part of the site was not affected by the construction.

A short east-west access road* connects the Otter Cliffs road and Ocean Drive, bisecting the level, wooded eastern portion of the site (see figure 4). Most of the subsurface remains of the Otter Cliffs Radio Station are close to and on both sides of this access road. There are two small meadows, one south of the access road, close to the Otter Cliffs road and the other south of the parking turnout area midway on the access road (figure 6) For the past few years, a portable restroom and this gravel turnout parking area have been the visitor facilities for this section of the park.

When the Otter Cliffs Radio Station was established in 1917, its northern boundary was defined by a northwest-trending road that led into the station from the Otter Cliffs road (figure 4). Ditches and raised portions of the old roadbed are visible today along the northern edge of the site. North beyond the old entrance road, the wooded area slopes gently to a small ravine that traverses the area northwest/southeast (figure 3). Along the west side of the Otter Cliffs road, the relatively flat terrain extends north from the Fishhouse road to the park boundary. Like most of Otter Point, the project area is covered with a mixed coniferous and deciduous forest and a dense understory of vines and bushes.

---

*This road will be known as "the access road" throughout this report.

BEST COPY AVAILABLE

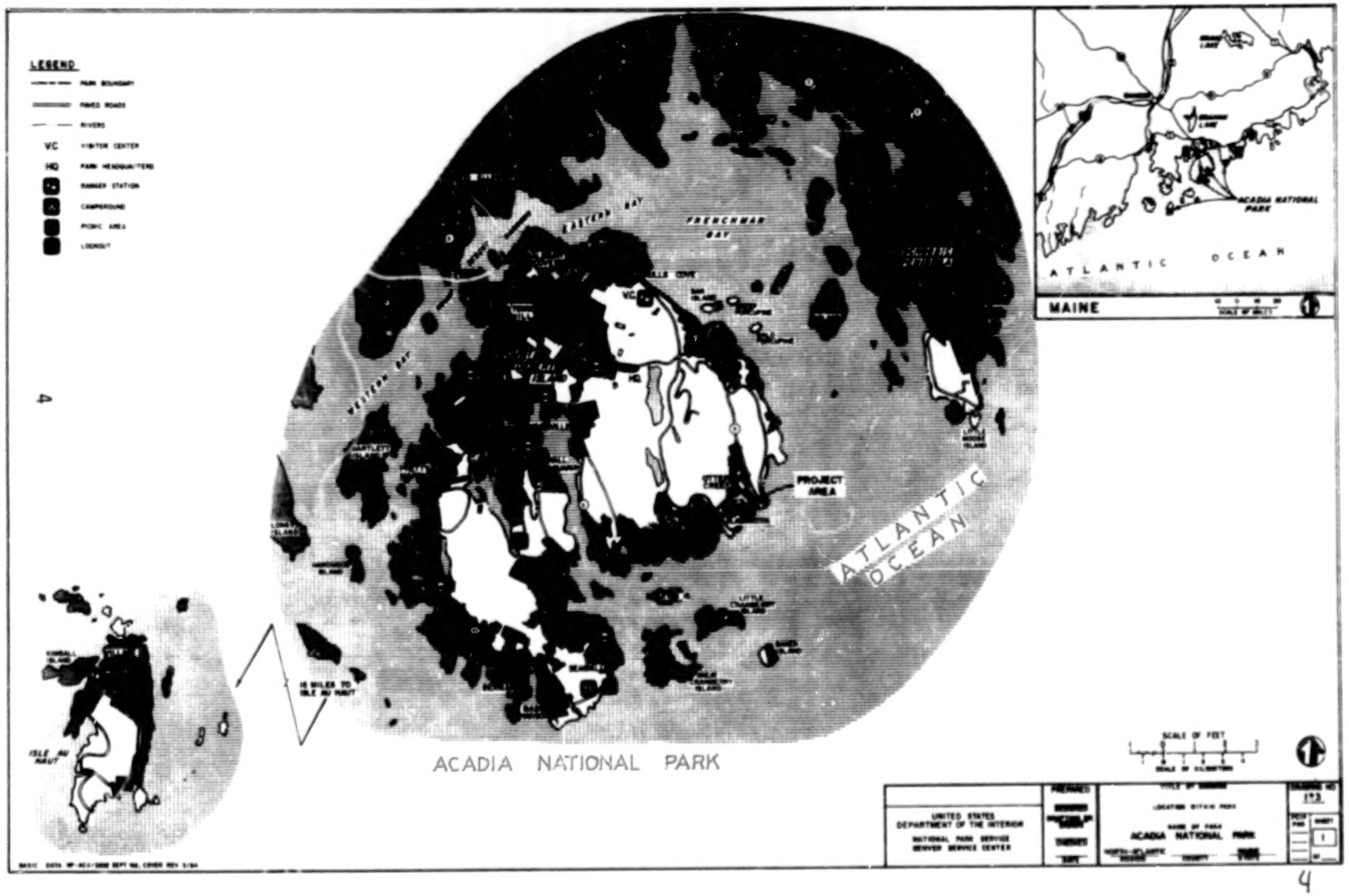
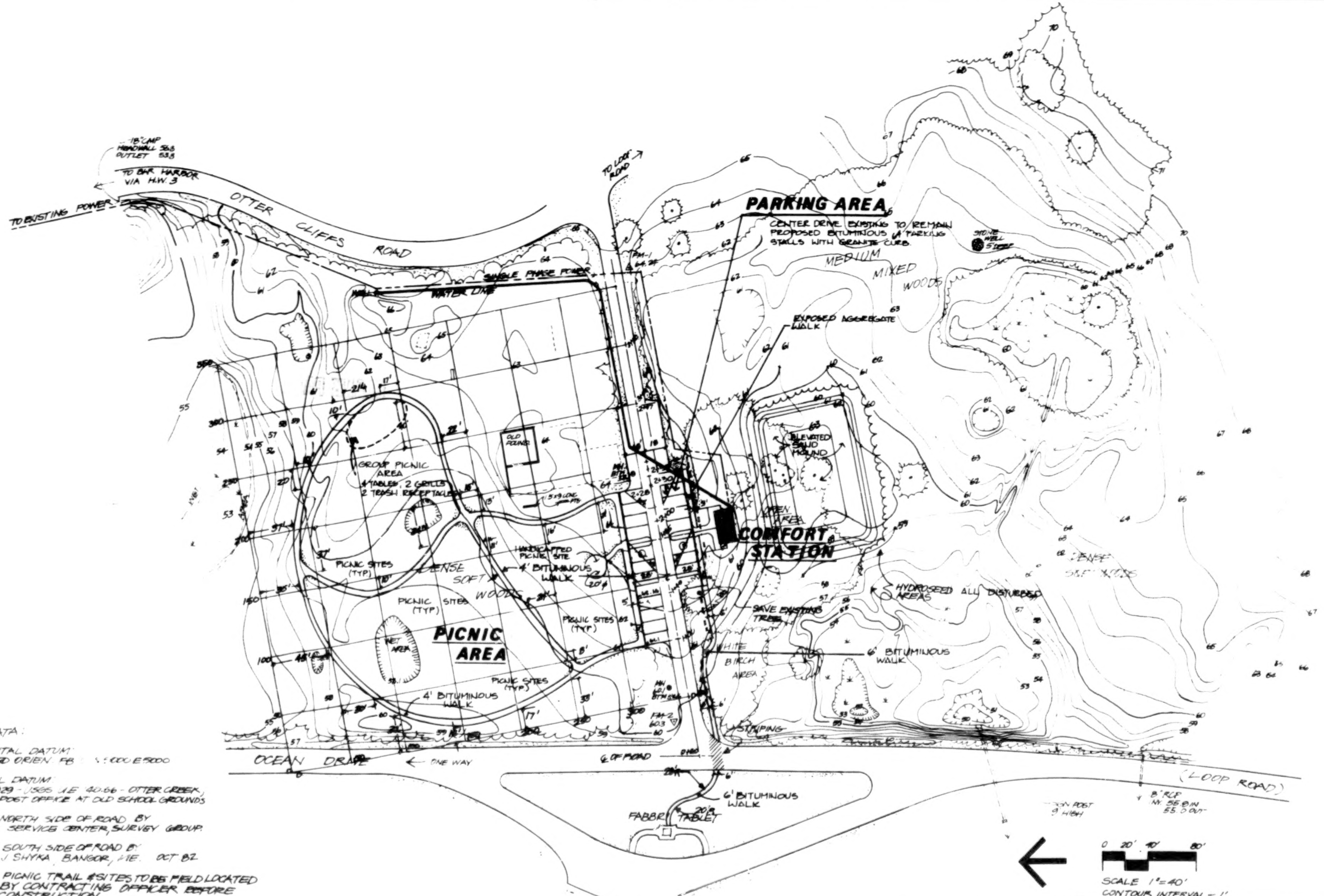


Figure 1: Acadia National Park location map.



BASE DATA:

HORIZONTAL DATUM:
ASSUMED ORIEN. FB N5000 E5000

VERTICAL DATUM:
MSL 1929 - USGS B.M. 40.66 - OTTER CREEK,
NEAR POST OFFICE AT OLD SCHOOL GROUNDS

SURVEY NORTH SIDE OF ROAD BY
DENVER SERVICE CENTER, SURVEY GROUP.

SURVEY SOUTH SIDE OF ROAD BY
ANDREW J SHYKA, BANGOR, ME. OCT 82

NOTE:
1. PICNIC TRAIL & SITES TO BE FIELD LOCATED BY CONTRACTING OFFICER BEFORE CONSTRUCTION.
2. PARKING STALLS 10'X20' (2 HANDICAPPED STALLS 12'X20')
3. ADDITIONAL GRADING AND SPOT ELEVATIONS FOR HANDICAP ACCESS AND FRONT OF BUILDING SEE SHEET 4. GRADING IS TO BE THE SAME FOR PARKING EACH SIDE OF EXISTING ROAD.

Mark	Sheet	REVISION	Date	Initial
A	3		6-2-86	D.R.

DESIGNED: FUNKE
DRAWN: FUNKE
TECH. REVIEW: Tregarden
DATE: 7/84
SUB SHEET NO

TITLE OF SHEET
FIGURE 2:
DEVELOPMENT PLAN FOR
THE FABBRI MEMORIAL SITE

DRAWING NO. 123 / 41045A
PKG. NO. 152
SHEET 3 OF 17

BEST COPY AVAILABLE

BLANK PAGE

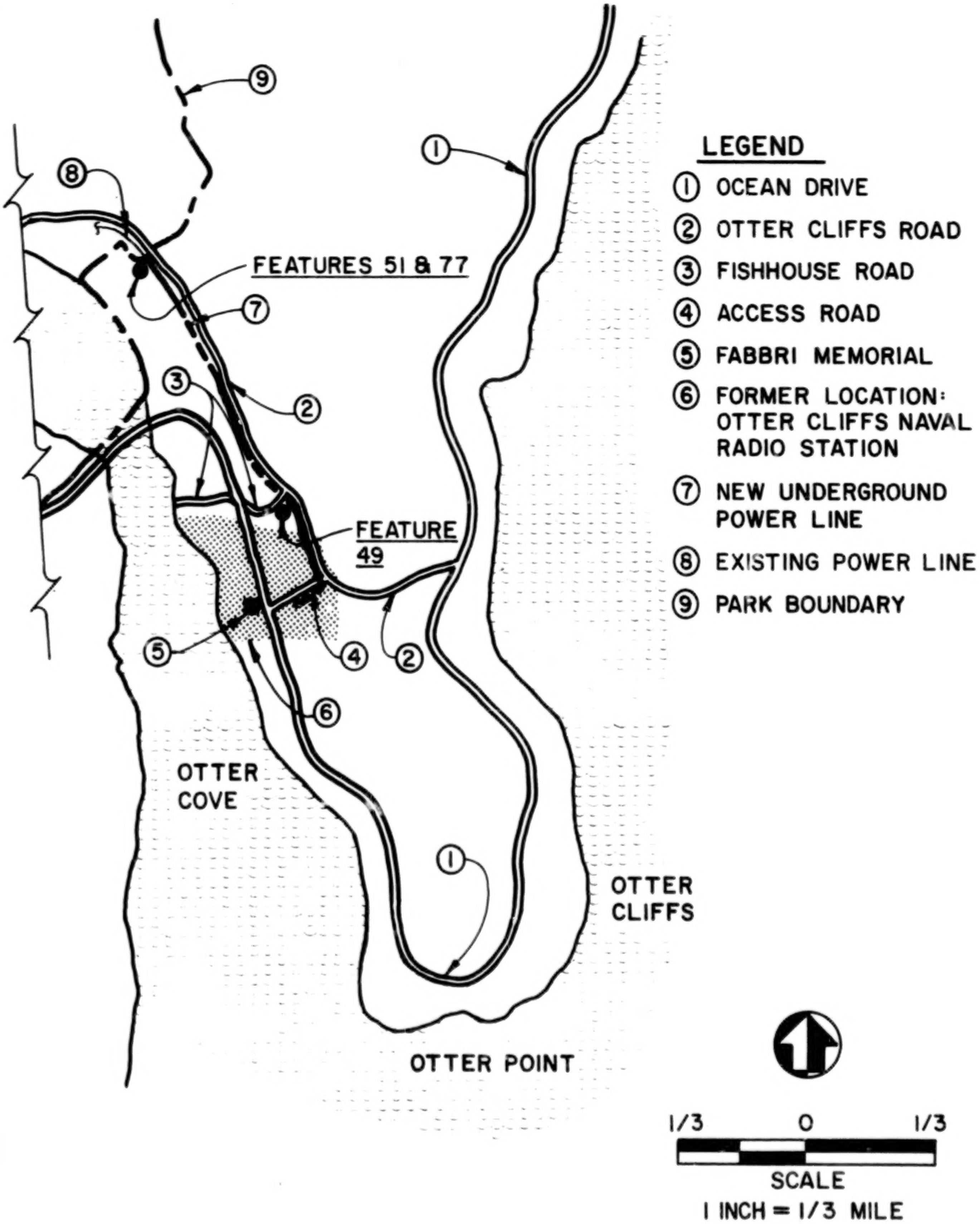


Figure 3: Schematic map of utility line excavations, 1984-1985

123	25,005
DSC	FEB. 86

IN MAP POCKET

Figure 4: Features found during testing and monitoring, 1983-1985.

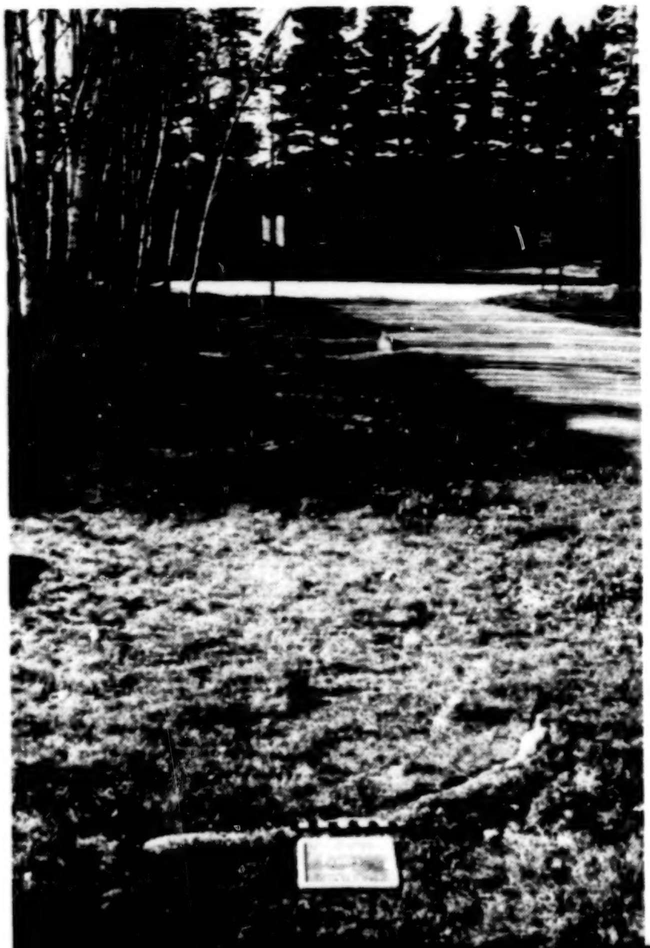


Figure 5: View looking west toward intersection of Ocean Drive and the access road. The Fabbri Memorial and Otter Cove are beyond the trees in the background.

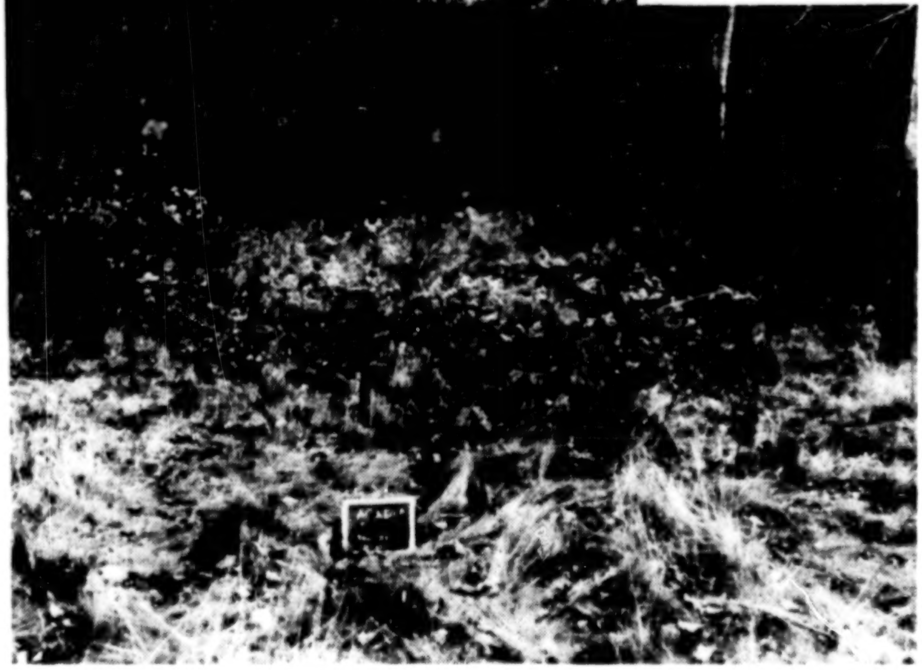


Figure 6: Central meadow, looking south from the access road. Picture taken prior to construction of the sewage mound.

Photographer: Diane Rhodes; photographs are on file at Acadia National Park.

There are two historic sites north of the original radio station boundary. The first, feature 33 (figure 4), contains a dry-laid red granite foundation that lines two sides of a mounded area near a stone-lined well or cistern. Remains of the second historic site, feature 49, are in an open meadow on the north side of the ravine, just south of the Fishhouse road (Figures 3 and 4). The site consists of granite blocks laid in a linear configuration, exotic plants, artifact scatters, and a separate cellar foundation of dry-laid granite blocks.

Feature 51, a third historic site of dry-laid stone foundations and historic artifact scatters, is just inside the park boundary on the west side of the Otter Cliffs road (figure 3).

Further information on the existing conditions prior to package no. 152 construction can be found in the report by Rhodes and Naglich (1985).

Project Description

During the package 152 construction project, a group picnic ground and 20 individual picnic sites were installed in the wooded area north of the access road (figure 2). Additional parking and an eight-bay comfort station were built on approximately one acre just south of the access road, replacing the gravel parking turnout and portable restroom. A new elevated chambered-mound sewage system covers some 30,000 square feet of the adjacent central meadow. Both the sewage system and a new well, drilled on the eastern edge of the site early in 1984 to provide potable water, were part of package 152. Underground lines were installed to connect the well with a storage tank, which was built near the comfort station.

Summary of Area Prehistory

Although traces of past human activities dating to about 12,000 years before present (B.P.) have been found along the northeastern coast of North America, documented sites on Mount Desert Island are of more recent occupations. Generally, these sites are shell middens concentrated on coastal and inlet areas and along fresh water streams. The Passamaquoddy and Penobscot Indians camped and hunted on Mount Desert Island well into the nineteenth century.

While significant prehistoric resources have been reported for Mount Desert Island, none were located during the survey, testing, or monitoring at the Fabbri site. For this reason, the focus of this report will be upon the historical archeology of the memorial area and the adjacent Otter Cliffs road corridor. Further data on the prehistoric resources of the area can be found in the report by Rhodes and Naglich (1985).

Background of Area History

First visited by Champlain in 1604, Mount Desert Island was used as a rendezvous and stopping place for British and French ships during the late 1700s and early 1800s. Its ownership was disputed into the eighteenth century. The Otter Point lands were acquired by William Bingham of Massachusetts in the early 1800s, and by mid-century his holdings had been divided and settled by several different families. Historical records suggest that by the mid-1800s the southern portion of the area later occupied by the Naval Radio Station was owned by Elbridge Young; the northern part was acquired by P. S. Fernald in 1873. Young sold his property to Aulick Palmer who built a summer home known as "Otter's Nest" on the west side of the property overlooking Otter Cove. Otter's Nest was eventually converted into a private country club, which closed shortly before World War I. The property was then acquired by Alessandro Fabbri, an amateur radio enthusiast who enlisted Franklin Delano Roosevelt's help in getting a naval radio station established on the Otter Point property. Fabbri also leased Fernald's half of the property for station use.

Following the official commissioning of the Otter Cliffs Radio Station on August 28, 1917, an energetic development program was begun. The old country club, formerly Otter's Nest, was converted to an administration building, and two sets of barracks, numerous utility lines, two spark towers, receiving loops, a series of receiving shacks, and a number of small ancillary structures were built on what is now known as the Fabbri Memorial site (figure 4). Various support systems--water distribution and fire protection, roads and walkways, and electrical and radio transmission systems--were necessary for radio station operation. Over the next 15 years, numerous additions and improvements were made to these station support systems. Because many of these features were uncovered during the construction project, a brief description of the development of the radio station utility systems follows.

In conjunction with construction of the receiving shacks and modification of the administration building, a rudimentary water supply system was installed at the radio station. Maps dated December 1919 indicate the primary water source was a 275-foot deep artesian well behind (southeast) of the pump house. For water reserves and fire protection, two 1500-gallon water tanks were set horizontally over another well which was beneath the pump house.

During 1920 a fire protection plan was drafted in an effort to upgrade the facilities. This plan proposed construction of an elevated 50,000-gallon water tank to replace the small tanks in the pump house, extension of new waterlines to various station structures, and installation of hydrants. By 1921 most of the improvements outlined in the fire protection plan had been made (figure 4). A 4-inch waterline was extended from the new garage at the east end of the station to intersect a north/south 8-inch main from the pump house/water tank. At the north edge of what is now the access road, this large main split. A 4-inch line ran north to service a hydrant near the northwest corner of Barracks B, and a 6-inch line was extended under the north edge of the road out to the administration building and other structures on the west side of the base. A 1-1/2-inch line angled from the 8-inch main southwest to Barracks A, while another 4-inch line ran south from the new garage to a hydrant on the south edge of the access road. (This hydrant was about 5 feet southwest of the present location of feature 64.) By 1921 two 2-inch waterlines had been added. These lines ran northwest from the pump house; one intersected the small feeder line to Barracks B and the other met the 6-inch line to the administration building (figure 4). Despite

BEST COPY AVAILABLE

these precautions, a disasterous fire in January 1923 destroyed Barracks B and the new garage at the east edge of the site.

A number of other lines ran to the guardhouse and quarters areas at the northwestern corner of the site. These lines, recorded on figure 4, were not affected by this project and are not discussed here. By 1934 the water system included a great deal of pipe, hydrants, manholes, blow-off valves, a 50,000-gallon elevated water tank, and the wells, pumps, and pump house.

Figure 4 shows the various 4-inch diameter sewer lines that were part of the simple gravity-flow disposal system. One line drained from the corner of Barracks A southwest into Otter Cove; another extended from the foundation corner of Barracks B northwest to Ocean Drive where it cut due west to drain directly into the cove. Two more short lines led from the operations center to a septic tank on the cliff just above the cove, and two adjacent lines led directly from the administration building to the water below. Several dry wells were dug to provide drainage (figure 4).

The electrical system was crucial to base operations. The electrical distribution system included generators and power from outside the station, above-ground power lines and poles, ground rods and wires, and a series of brick-lined manholes connected by concrete ducts that contained high voltage wiring in conduit (figure 4). Low-voltage electrical distribution was also needed for such base activities as the pumps and barracks lighting. Some of this power may have been carried in direct-burial wiring. The subsurface antenna lines and transmission lines related directly to radio transmission and receiving are less well understood.

Station maps of December 1919 show what appear to be 8-phase 220-volt power lines running northwest from the vicinity of the old garage, just east of Barracks A. Another line that ran from the administration building north to the guardhouse has the notation that the surface wires drop to a 2-inch iron underground conduit. Another parallel line in the same area carried 2-3 phase, 220 volt power.

According to historic maps, overhead power lines came into the west side of the site to the administration building/operating room where the batteries were housed. By 1921 an underground concrete duct system had been built to house most of the larger electrical lines. The duct system, containing 8 conduits, began at the operating room and ran eastward along the north side of the road to a manhole in the Barracks A vicinity. Four ducts were extended south from the manhole to the barracks. Six ducts continued on east from the manhole to the vicinity of feature 7 (another brick-lined manhole) where a series of lines and ducts ran to Barracks B, the new garage, the new entrance area, and the receiving shacks and experimental booths (figure 4). A number of manholes were built to service these subsurface electrical lines (figure 4).

Major changes were made to the radio station road system between 1919 and 1921. A new entrance road--occupying somewhat the same corridor as the present access road--was opened from the Otter Cliffs road. A guard post was established on the eastern edge of the site, and a series of internal walks and drives were laid out between major structures and activity areas. Fences were also erected around the site perimeter.

Although the station suffered from a lack of funding, personnel, and equipment, the dedicated troops were able to build the facility into the "most important and efficient receiving station in the world" (Hovenden 1979:11). Assisted by scientists from firms such as Western Electric and General Electric, Naval personnel pioneered various advances in radio technology, including the Hoxie recorder, equipment related to jamming (barraging) radio signals, and atmospheric noise or static reduction hardware. The radiomen regularly monitored six European stations, including the crucial German broadcasts. The station received the German peace overtures, received and transmitted the Armistice agreement to Washington, assisted in numerous submarine sighting reports, tracked transatlantic flights, and relayed both civilian and military messages. By the end of World War I, the station had become the sole Government radio receiving station for all European transmissions. After the war, the station continued to handle radio messages on a reduced scale. Fewer personnel were necessary to man the station, and Barracks B was never rebuilt following its destruction by fire.

John D. Rockefeller, Jr. planned to build a road around the Point during the 1930s. This plan conflicted with Naval occupation of the area. Eventually a land swap was arranged and a new radio station was erected on Schoodic Penninsula. The structures at Otter Point were razed and the area was allowed to return to its natural state. Rockefeller's new road, known as Ocean Drive or the loop road, was built shortly thereafter, through the western portion of the site between the administration building and Barracks A. In 1939 a monument honoring Lieutenant Fabbri and the accomplishments of the radio station was erected on the west side of Ocean Drive over the site of the administration building complex. By this time, the National Park Service was administering the twelve acres which were formerly the core area of the radio station.

In the 1940s the National Park Service built a small ranger station on the south side of the access road just east of the former location of Barracks A. A septic tank was installed directly behind the station. According to park personnel, the ranger station was set on cedar posts above the ground. A hand-dug well was on the east side of the building, and there was an artesian well containing a submersible pump at the northwest corner. Both wells were later filled in--the artesian well with gravel. There was a crushed-gravel parking lot in front of the station (R. Young and N. Walls, personal communication, 1983). No surface traces of the ranger station remained after it was demolished a few years later. More recently, a temporary comfort station, a 5,000-gallon subsurface holding tank, and gravel parking were installed in the area where the ranger station had been sited, and the old septic tank was filled in.

Previous Investigations

Barbara Johnson and David Sanger (1977) investigated various prehistoric sites in Acadia National Park, finding 11 sites on Mount Desert Island shore zones. However, none of these sites were near the project area. A number of other site-specific archeological reports have been done for the park, but they do not mention the Fabbri Memorial area.

Wendell S. Hadlock's historical survey (1963:13) included the "Otter Creek Navy Receiving Station" as site no. 14 on his list of historic sites, but gave only a short, general paragraph on its background. A study of Acadia's historic resources by Patricia Rubertone et al. (1979:28) provided general data on nineteenth century properties on Otter Point, including "Otter's Nest," a summer home that later became the administration building for the radio station. The Otter Cliffs Naval Radio Station was discussed briefly in a book by former Acadia Superintendent George B. Dorr. A more detailed description of previous investigations and a discussion of the research done for package no. 152 was included in the previous report in this series (Rhodes and Naglich 1985).

RESULTS OF MONITORING

Introduction

During construction activities, excavated soils and exposed trench profiles and floors were closely checked for artifacts and subsurface features. Historical maps were checked in the field to correlate findings with mapped features. When features or significant artifacts were discovered, work was halted and the findings were documented through field notes, maps, drawings, and photographs. Features were numbered, chronologically, as they were found, continuing the numerical series begun during the 1983 investigations (Rhodes and Naglich 1985). During the 1983 archeological investigations, shovel test numbers were written on flagging tape with permanent ink. After the testing was completed, these tapes were buried in the appropriate test with the backfill. These markers were still legible, which helped monitors to record feature locations in relation to the earlier tests. Monitors also recorded two historic sites near the utility line corridor and two manholes--both outside the construction impact zone.

While all artifacts found in the excavated soils were recorded in the field notes, only selected items were collected. Short unattached sections of pipe were recorded as artifacts, while longer in situ sections whose full length could not be ascertained were recorded as features. The collected artifacts were cleaned, numbered, and analyzed. They were given a unique number composed of locational data and a discrete artifact number. For example, artifact no. A.M.F51.7 was the seventh artifact recovered from the excavated soils near Feature 51 during the 1984-85 Monitoring project at Acadia National Park. However, because the provenience of all but a few items was highly questionable, these numerical assignments, using the closest feature as a geographic locator, should not in any way be construed as an in situ designation or as a direct association with the nearby feature.

The artifacts, maps, photographs, and notes will be returned to the park for curation and storage once this report is completed. Data collected during the monitoring will also be made available to the State Archeologist of Maine.

The following section is a chronological and locational account of construction activities for development package 152, detailing the various features and artifacts found and recorded during the project. A complete list of features found during the 1984-85 construction project is included in Appendix I. (Features 1 to 50, located during 1983, are itemized in Rhodes and Naglich 1985). The majority of the features found were in the central portion of the Fabbri Memorial site (Figure 4); almost all reported features were associated with the radio station.

Utility Line Excavation -- Park Boundary to Fishhouse Road

On October 27, 1984, the contractor began excavating the utility trench about 400 feet inside the park boundary (figure 7). For most of its 3,000-foot length, the backhoe trench (approximately 3 to 4 feet deep and 1.4 feet wide) was excavated in the western edge of the Otter Cliffs road.

Figure 7: Utility line trench, looking south along Otter Cliffs road.

Photographer: Diane Rhodes; photographs on file, Acadia National Park.

Generally the roadbed fill was unstratified and contained numerous glacial cobbles, boulders, and clay nodules in a tan sandy silt that overlay a sterile gravelly red silt. In the area near the park boundary, the sloping hillside had been cut on the east edge and filled on the west to produce the level road surface. By November 2, about 100 feet of trench had been dug south of the starting point, electrical cable had been laid, and the trench had been backfilled. No features or artifacts were found in this section of line (Seidel 1985a).

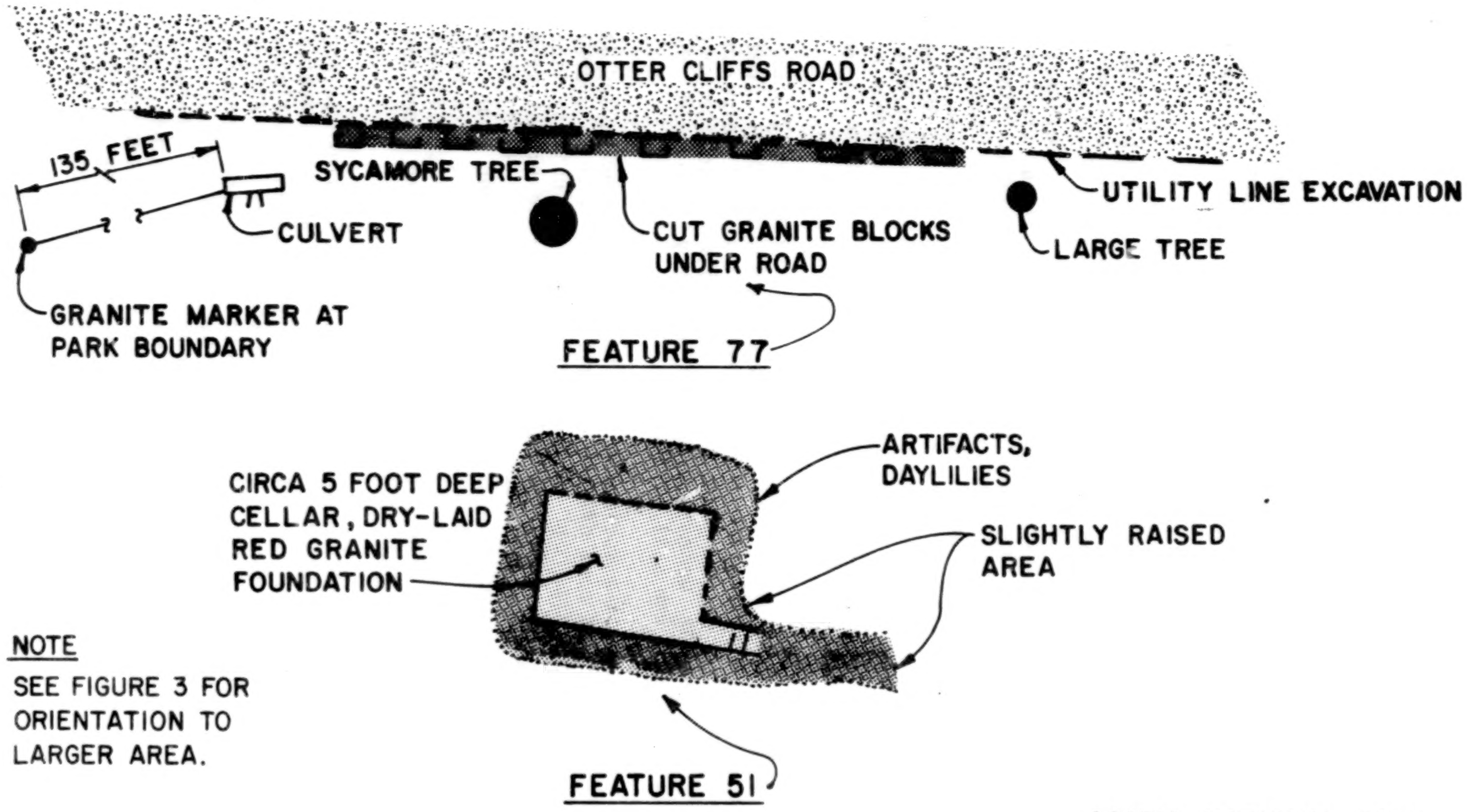
During November 5-16, the utility line was completed north to the park boundary and south to the comfort station at the Fabbri Memorial site. Near its north end, the utility line trench was angled into the woods to connect with existing power lines. The boundary line historic site was found in the woods just west and outside the project impact zone (Figure 8). Designated in the field as feature 51, this site consisted of a trash-filled, dry-laid, granite foundation and cellar, artifact scatters, and exotic plants (figures 9 and 10). Historic maps on file at the park list the property under the name Stanley (figure 11). Rubertone et al. surveyed the area in 1979, listing a number of historic sites for Otter Point. Their sites 27, 28, and 29 were the pre-1860 Stanley and Bunker houses and the pre-1880 Bunker/Evans properties situated along the Otter Cliffs road. (Note that these names are cited as "Banker" and "Slaney" on the 1887 map, figure 12). Feature 51 was probably part of one of these properties.

A number of cut gray granite blocks averaging a foot across (feature 77) were found in the old roadbed fronting feature 51 (figures 8, 13, and 14). These granite blocks were laid parallel to the road, from 1 to 2 feet below the asphalt surface and extended west 2 feet beyond the asphalt into the road shoulder. Cobbles and gravels were interspersed randomly throughout the granite fill, which overlies a tan silt.

No artifacts were found in direct association with the granite blocks, and it is not clear if this feature was part of the adjacent historic site. Several springs on the hillside above the road to the east caused the utility line trench to collect water shortly after excavation. The granite blocks were probably laid to firm up the soggy roadbed and prevent erosion. Along this stretch of road, the entire roadbed is about two feet higher than the adjacent roadside to the west so it is possible that these blocks were part of the original road or were laid on the surface before the road was built up to its present elevation. An old sand and tar surfacing was found under the present blacktop asphalt, overlying the stone and gravel fill.

From 240 to 250 feet south of the park boundary, brick, mortar, clinkers, and nineteenth and twentieth century ceramics were observed in soils excavated from the utility line trench (figure 13; table 1). These artifacts included decorated and undecorated whitewares, and salt-glazed stone--some with Albany slip. A few more items were found about 172 feet south of the park boundary, and several angular red granite blocks were on the ground surface west of the road in this same area. However, there were no concentrations of artifacts or any distinctive feature indicators in the trench profiles. Rather, the items recovered appeared to be mixed in with and a part of the underlying roadbed fill which was visible in the trench profiles about .5 to 1.0 feet below the existing grade of the road shoulder. These artifacts may have been

BEST COPY AVAILABLE



NOTE

SEE FIGURE 3 FOR ORIENTATION TO LARGER AREA.

FIGURE 8:

FEATURE 51, BOUNDARY LINE HISTORIC SITE, AND FEATURE 77, CUT GRANITE BLOCKS

BLANK PAGE

Figure 9: Looking northwest toward corner of foundation (feature 51).

Figure 10: Northwestern corner of feature 51 foundation.

Photographer: J. Ravenhorst; photographs on file, Acadia National Park.

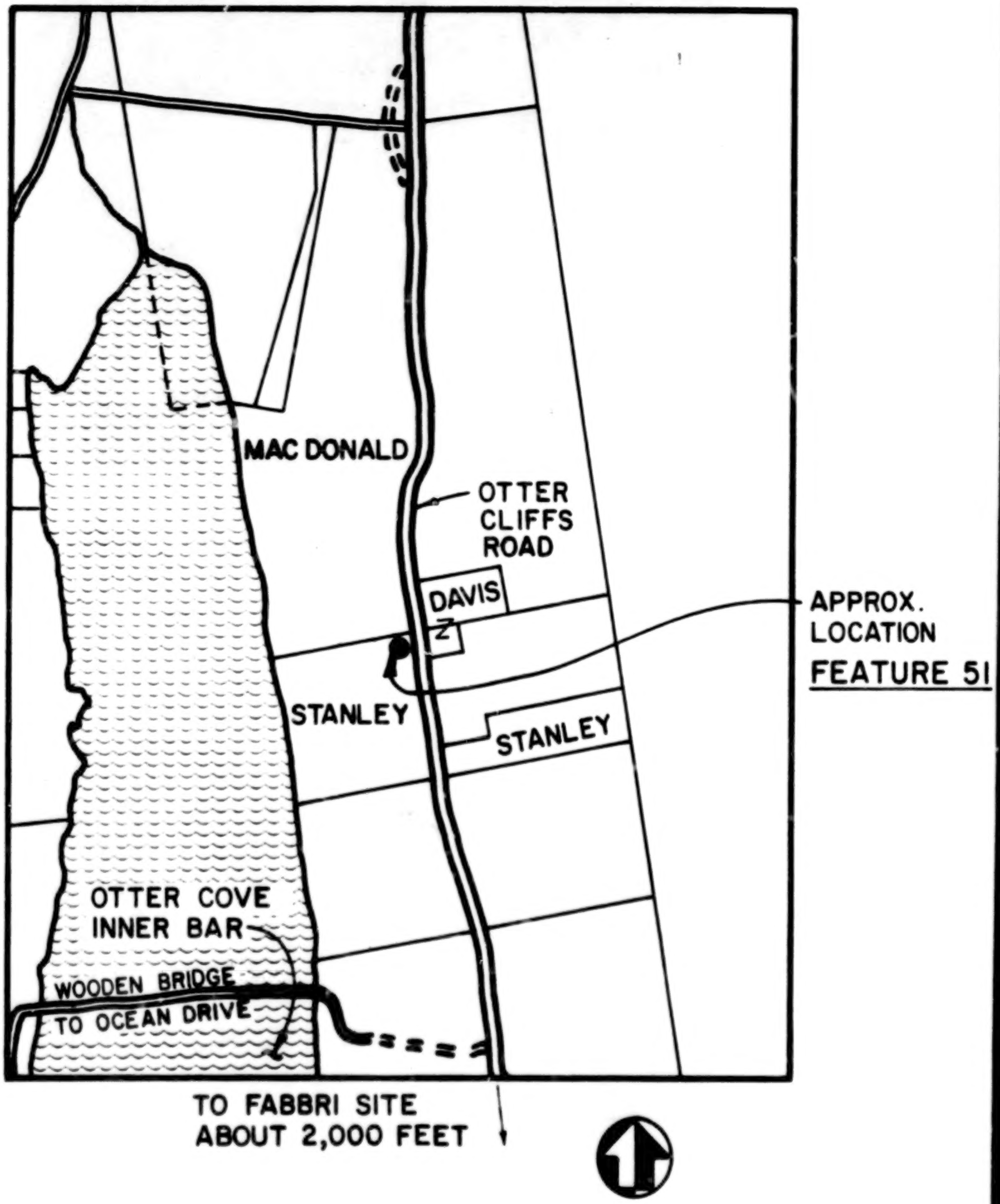


Figure 11: Ownership of lots, Otter Point, Maine, before 1930.

Source: Adapted from map with the same title on file at Acadia National Park.

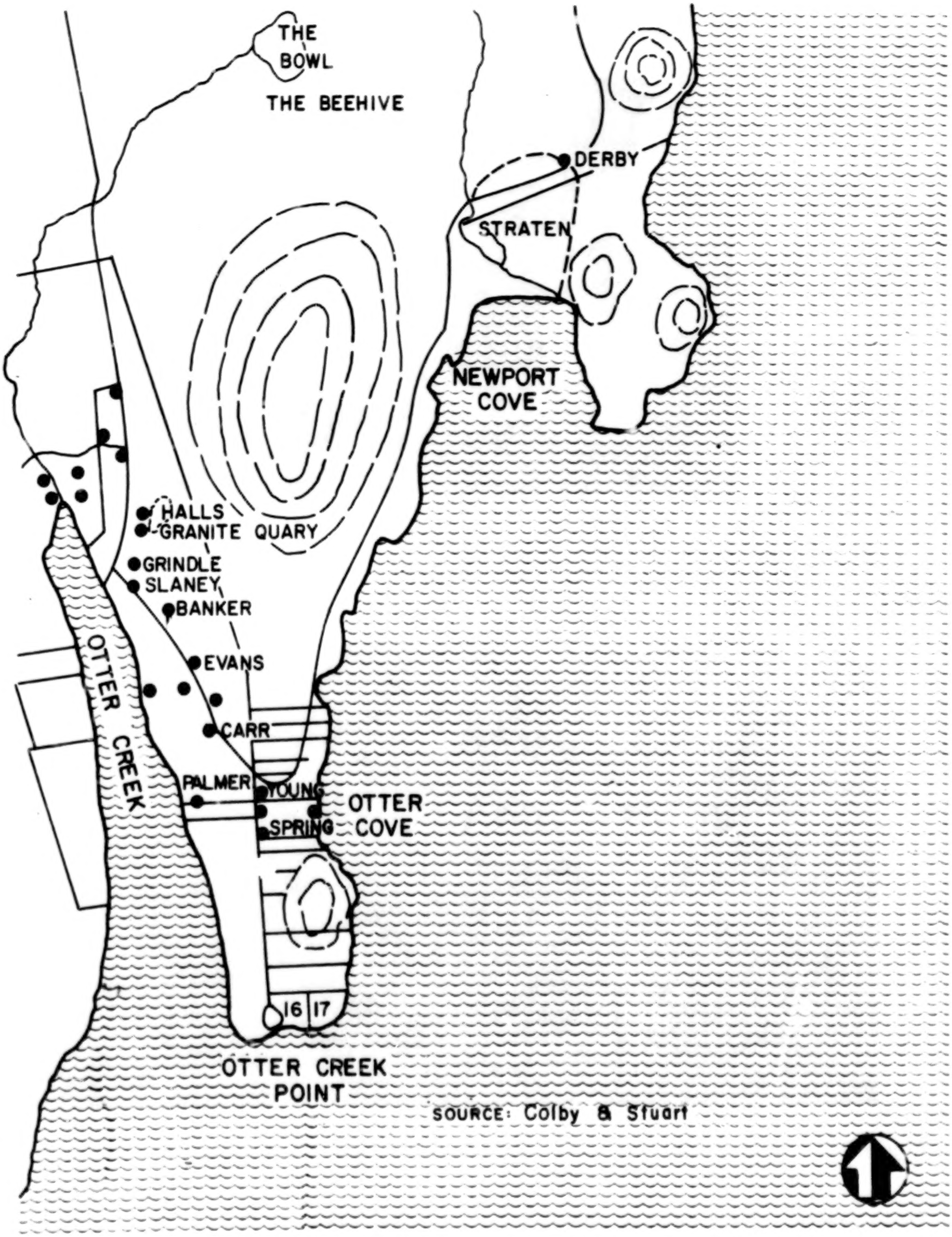


Figure 12: Otter Point, 1887

Source: Acadia National Park

BEST COPY AVAILABLE

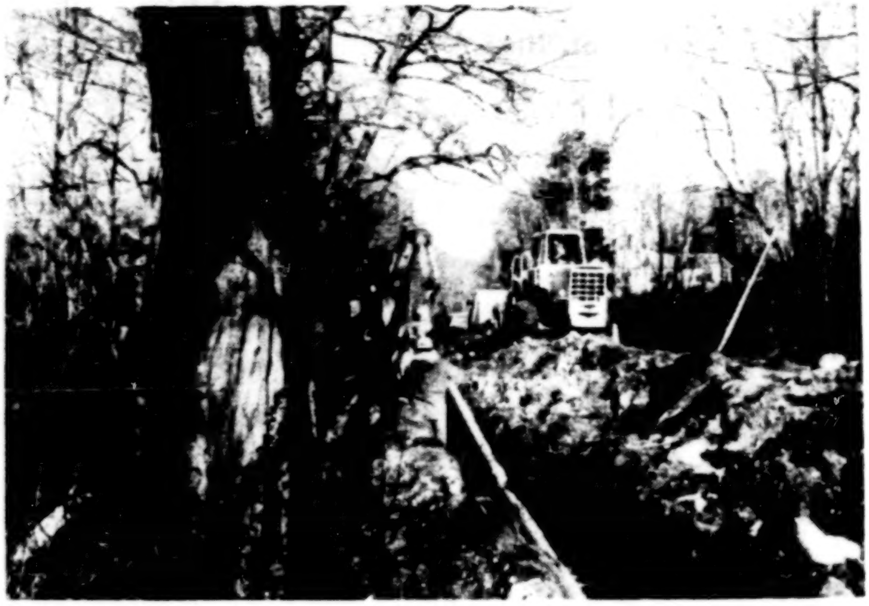


Figure 13: Looking north along Otter Cliffs road at excavation for utility line near park boundary and features 51 and 77

Figure 14: Looking down and east at feature 77, granite blocks, in profile of utility line trench.

Photographer: Diane Rhodes; photographs on file, Acadia National Park.

hauled in with fill gravel, but it is more likely that they are related to the nearby historic site (feature 51) because the rest of the trench was culturally sterile all the way south to the Fishhouse road. These artifacts were probably scraped up and mixed with fill during one of several road rennovations.

Utility Line Excavations--Fishhouse Road to Access Road

At its intersection with Fishhouse road, the trench profile was much like that of the Otter Cliffs roadbed--asphalt covered about 1.5 feet of mixed, packed fill, which graded into green clay. Just south of the Fishhouse road, the trench angled away from the road about 5 feet in a shallow arc before returning to the road shoulder near an apple tree and lilac bush associated with feature 49, another historic homesite (figure 15). In the area west of the road shoulder, the soil was a uniform fine tan silt. With the exception of a large, red, coarse-grained, cut-granite boulder which may have been a corner marker, there were no rocks in the excavated soils. Heavy clay and large natural cobbles and boulders under silty loam topsoils were encountered about 40 feet south of the Fishhouse Road in the utility trench.

Feature 49 is in the triangular area bounded by the Otter Cliffs road, the Fishhouse road, and a small ravine (figures 4 and 15). This feature consists of a dry-laid red granite foundation lining a cellar hole and entryway (figure 16), a small curvilinear depressed area, three somewhat parallel lines of granite blocks (figure 17), a roughly circular accumulation of granite blocks, several partially buried granite blocks near the roadway, and an extensive artifact concentration along the bank of the ravine (figure 15). Exotic plants in the area include apple trees, and lilac, rose, and raspberry bushes.

At the request of the author, Otter Creek Postmistress Cynthia Thurston interviewed local informants Mike Bracy and Austin Walls about this property (Thurston, personal communication September 1985) According to these long-time residents, the land occupied by feature 49 belonged to Joseph Young during the late 1800s (figure 13 dated 1887 shows the land held by ___ Young).

Around 1920 the land was acquired by Horace Liscomb. He ran an store and gas pump near his two-story house and barn. "Across the road" were the cabins and tent spaces that Liscomb rented to tourists (Thurston 1985). At this time the Otter Cliffs road was the main street of the Otter Creek community. An undated twentieth century map on file at Acadia National Park shows a small area just north of the Fishhouse road assigned to "Young" and the acreage just south of the road held by "Dorr" (figure 18). George B. Dorr was the first superintendent of the area that eventually became Acadia National Park, and much of the land acquired in his name was later added to the park. It is not known when the structures represented by feature 49 were removed from the former Dorr property.

Artifacts found in the utility line trench near feature 49 include a horseshoe, part of an aqua-colored insulator, and an agateware door knob. Agateware was used for doorknobs after circa 1800. The horseshoe was probably used for the rear hoof of a medium-large carriage or riding horse or for a mule--judging by its size and generally oval configuration (Watkins,

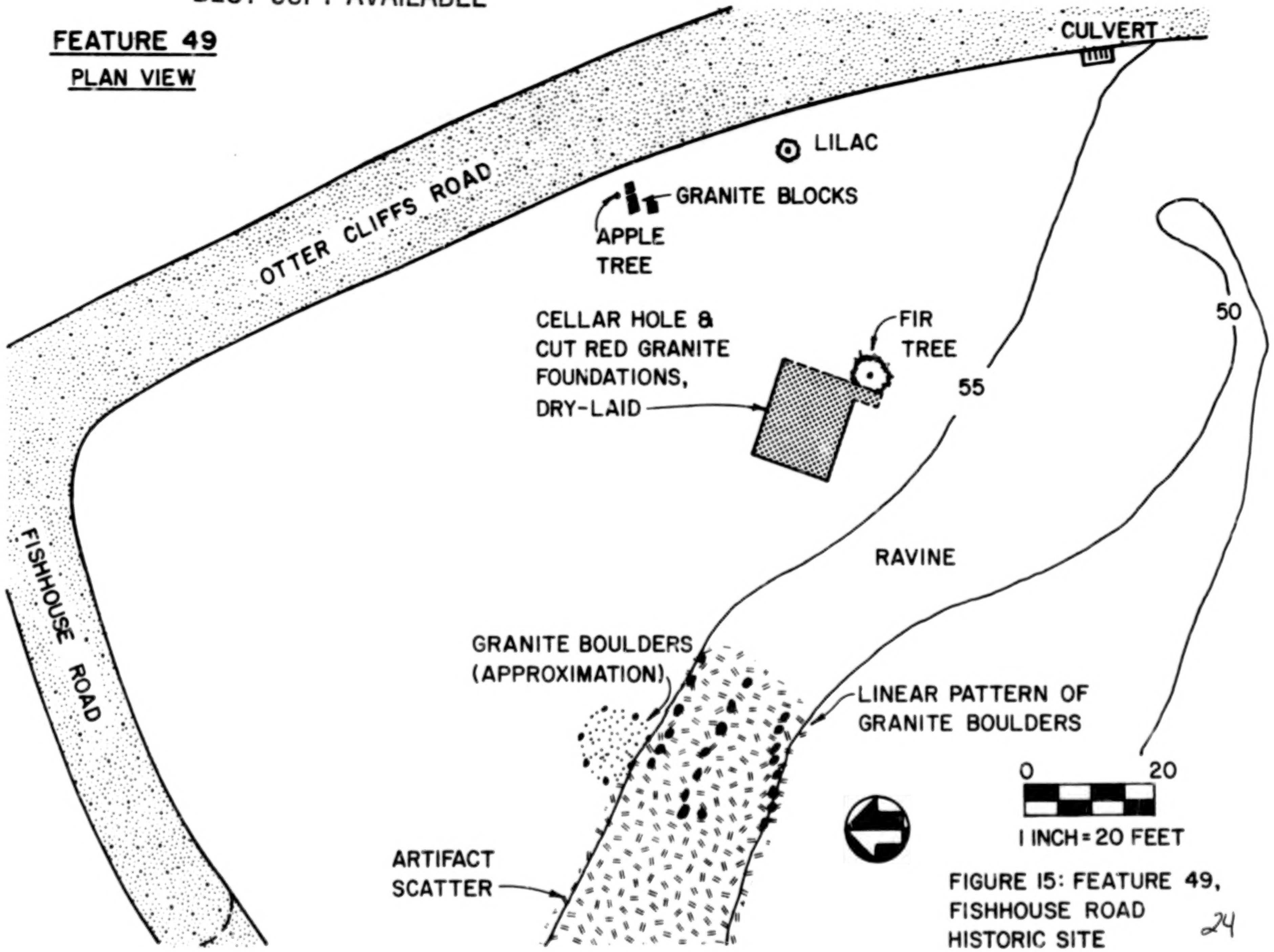


FIGURE 15: FEATURE 49, FISHHOUSE ROAD HISTORIC SITE

BLANK PAGE

Figure 16: Feature 49, looking north at profile of cellar and foundation wall.

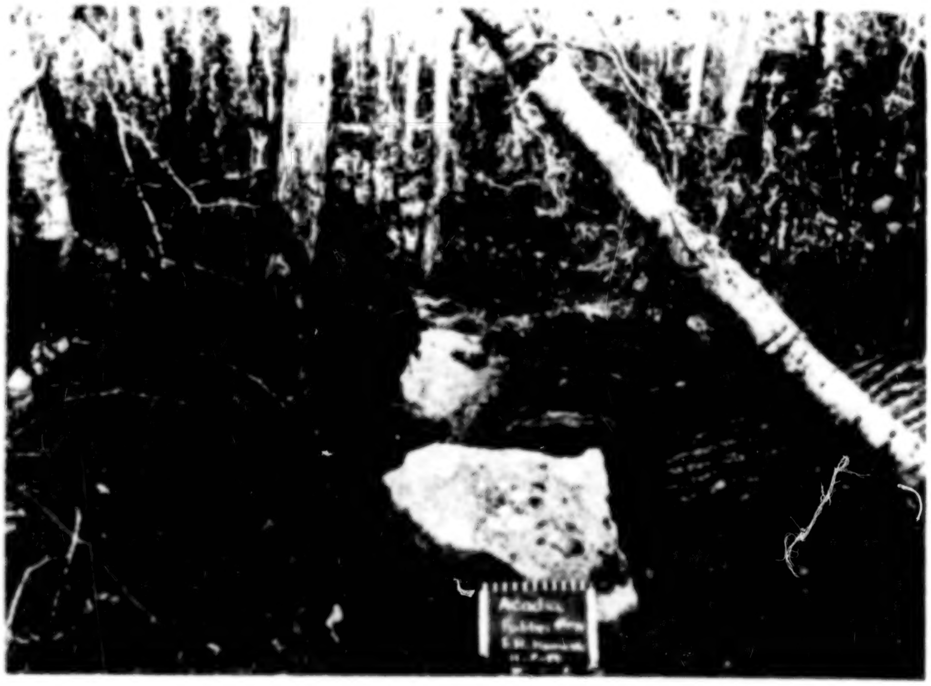


Figure 17: Feature 49, looking east at linear arrangement of red granite blocks. The line of stone extending into the background may be the foundation of a barn or outbuilding.

Photographer: Diane Rhodes; photographs on file, Acadia National Park.

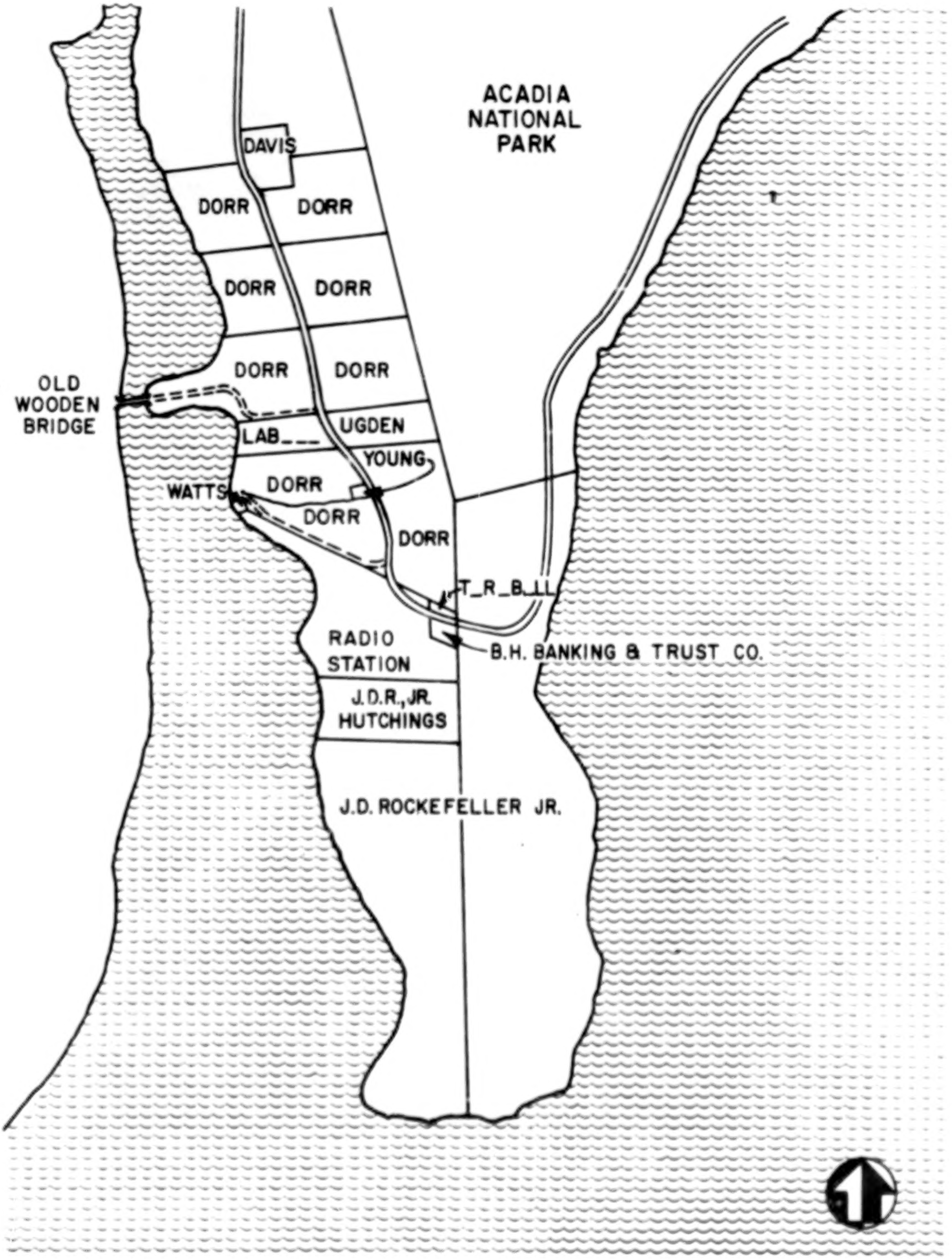


Figure 18: Excerpt from sketch showing lots at Otter Creek Point, circa late 1920s or early 1930s.

personal communication: 13 February 1986). These artifacts may be roadside debris, however, it is more likely they are associated with the store/homesite. The artifacts are similar in age, style, condition, and function to those observed on the ground surface throughout feature 49. Manufacturing dates of some of the artifacts found here are congruent with nineteenth and twentieth century household use. It is possible that the site was in use/occupied during the radio station period. No other cultural remains were found in soils excavated from the utility line between the Fishhouse Road and the original roadway into the radio station (figure 4).

The 1984 well (figure 2), was drilled in the center of a turnout from the Otter Cliffs road. This turnout leads onto a now-abandoned, overgrown, gravel road that once ran along 1800s property lines and marked the northern boundary of the radio station. When the radio station was first built, this road was the primary access into the base. By 1921 a new access road had been built, and all indications are that the old road was fenced off. The present access road between Otter Cliffs road and Ocean Drive occupies approximately the same corridor as the 1920s road. At its intersection with the utility line trench, the pre-1920s roadbed consisted of about .6 foot of dark brown, very sandy silt, with crushed red granite and small pea gravel over about 1.0 foot of mixed fill (sand, gravel, and cobbles), which in turn was over grey-green clay subsoils. The pre-1920s roadbed and turnout extended for about 50 feet north/south along the Otter Cliffs road.

A 3-1/2 inch interior diameter ferrous pipe of unknown length (feature 52) was uncovered in the utility trench 67.5 feet north of the access road that leads from the Otter Cliffs road to Ocean Drive (figure 4). The pipe was about 2.0 feet below the existing grade and angled from northeast to southwest. It is not known if this pipe was discarded here or if it was part of the station utility system. A whole red brick found in the trench just south of the pipe was not collected.

For an interval of about 50 feet north of the access road, an old tan topsoil was present under a .6-foot layer of green clay. Normally, undisturbed glacial soils in the Otter Cliffs area are a fine, reddish, sandy, silt matrix with numerous cobbles and pockets of grey, sandy, volcanic tuff. These soils are generally covered by varying depths of humus. In some areas of Otter Point there are also deposits of a heavy, gray-green clay, which is known as the Presumpscot formation. This is a naturally deposited estuarian or marine clay, left behind when the glaciers retreated and submerged coastal areas reemerged. In previous work done at the Fabbri site, it was discovered that in a few areas this clay overlies a tan artifact bearing top-soil stratum. Near features 13 and 33 both eighteenth and nineteenth century artifacts were found in this older topsoil stratum. Testing established that the Presumpscot clay was used as fill around the concrete footings of radio station structures. It is assumed that the clay was used to level the site before the radio station construction began, covering portions of the ground surface in the eastern part of the site. Because scattered Presumpscot deposits are present throughout the region, the source of the clay used at the radio station cannot be easily determined.

Feature 76 was uncovered by the backhoe 7.8 feet north of the intersection of the utility line trench and the access road (figure 4). This unpatterned assortment of a few bricks, brick fragments, window glass, and large granite cobbles was in mixed, mottled fill soils from just below the surface to about 1.3 feet below existing grade. Some bricks were marked with the raised letters "D B & CO"--identical to those found in features 7 and 45 during the 1983 testing.

Project Work at Fabbri Memorial Site

An older roadbed, presumably the one built for the radio station sometime between 1919 and 1921, underlies the present access road. The roadbed fill contained large cobbles and cut granite blocks laid randomly to a depth of about 1.3 feet. In several areas the old roadbed extended further south than the present access road, probably reflecting old turnouts to the receiving shacks and the water tower.

After the utility line trench crossed the access road, it was run due west along and in the south edge of the roadbed in fill soils until it angled southwest toward the comfort station. A few artifacts were found in the excavated soils about 27 feet west of marker fm-1, a reference point established during the 1983 topographic surveys (figure 4). There were several large pieces of ferrous metal, flat glass, and soft brick fragments. The provenience of these artifacts is unclear. They may have been brought in with fill, they may have originated on the site, or they may have been disturbed by previous road construction. These artifacts were not collected.

Trench profiles along the south side of the access road showed almost a foot of heavy green clay over tan topsoil, which graded into gravel at 1.0 to 1.8 feet below existing grade. This sequence lay over gravelly red silt. About 8 feet from where the utility line trench angled southwest away from the access road toward the comfort station, the stratum immediately under the tan topsoil changed from green clay to rocky, gravelly fill over sterile red soils; no indications of the old tan silt topsoil were found in this area. Traces of the old radio station road turnout to the water tower area ended about 14 feet south of the present access road. Rounded granite cobbles, probably used to outline the road edge, were still visible in places along the south side of the access road.

The utility line excavation encountered a 6-inch interior diameter cast-iron pipe used as a electrical conduit (feature 53) about 48 feet west of fm-1, 1.6 feet below ground surface (figures 4 and 19). The heavy iron conduit, which was perpendicular to the access road, held a .1 foot diameter spiral-wrapped steel cable containing rubber-encased multistrand copper wiring (figure 20). Judging by the amount of corrosion, the conduit was broken some time ago, possibly during construction of the access road.

Once the utility trench went beyond the roadbed fill, it intersected areas where several features once stood--such as an old garage, the pump house, and the ranger station. About 30 feet south of the access road, the backhoe encountered a lead-coated direct burial electrical line just under the topsoil (feature 54; figures 4 and 21). The electrical wire was reburied when the trench was backfilled.

Figure 19: Feature 53, electrical line in metal pipe or conduit. View looking north toward access road.

Figure 20: Close-up of feature 53, electrical line.

Photographer: Diane Rhodes; photographs on file, Acadia National Park.

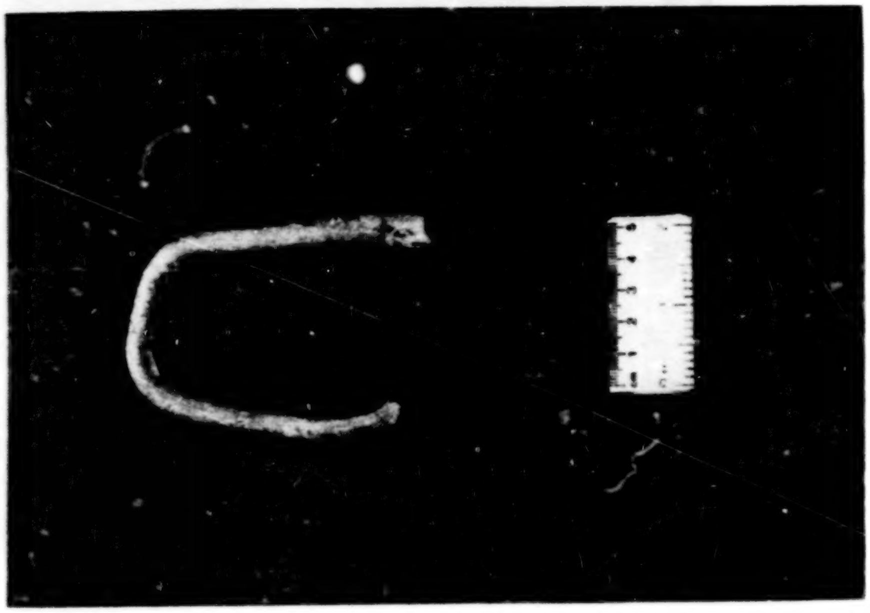


Figure 21: Sample of lead-covered electrical wiring, which is identical to that found in feature 54.

Figure 22: Looking down and northeast (toward the access road) at feature 55, north end of foundation.

Photographer: Diane Rhodes; photographs on file, Acadia National Park.

A concrete foundation was found a few feet farther southwest (feature 55; figures 4 and 22). The .8-foot wide foundation was of the same texture and type of cement and aggregate as that used on other radio station facilities, and the general configuration was similar to other structures on the base. The southwest corner of feature 55 was found 22 feet farther southwest along the utility line (figures 4 and 23). A narrow east/west wall .5 foot thick was situated 1.45 feet south of and parallel to the south wall of feature 55. The function of this wall (feature 56) is unknown. It may be a remnant of an earlier structure such as the old garage, but more likely it was installed to support a small lean-to, steps, or an addition to feature 55 (figures 4 and 24). These features were not discovered during testing, and it was thought at the beginning of the project that construction of the 1940s ranger station, and excavation for the septic tank, parking lot, and holding tank had obliterated any remains of the radio station structures in this immediate area.

The northern portion of feature 55 was left in place, the new electrical line was installed beneath it, and the trench was backfilled around the feature and the new line. A small part of the southwest corner of the foundation and the adjoining wall (feature 56) had to be removed to install the new electrical line because the concrete had been damaged by blasting. No indications of a builder's trench were visible near these foundations or the adjoining wall (features 55 and 56).

Toward the south end of the utility line near the new comfort station, clinkers and other coal combustion by-products were present in the top foot of soil. Artifacts found in the excavated soils in this area include a few miscellaneous ferrous fragments and parts of two ceramic insulators. These white, "split," two-piece insulators were common components of interior electrical wiring during the first half of the twentieth century. The round style (figure 25) was also used in various receiving apparatus situated in "The Field"--the small meadow on the east end of the station. The long, narrow, in-line insulator (figure 26) could have been used on an open wire or ladder feeder line (house wiring); it also may have served as a spacer to hold the wires apart. These types of insulators were in use during the first and second quarters of the twentieth century.

The north wall of feature 55 was cleared by trowel a short distance eastward from the utility trench. Window glass, a rubber knob, rubber-insulated wire, and an iron rod wound with copper wire were found near the east end of the foundation just north of the wall. This assemblage of items (feature 57) resembled a lightning-rod or telephone ground.

In the first week of the project, preparatory to construction of the sewage disposal mound, the contractor drilled into and dynamited a portion of what he thought was an underlying granite ledge. The drilling and blasting completely destroyed a concrete pad once used to support the northwest corner

Figure 23: Looking down and southwest at southwest corner of feature 55 foundation.

Figure 24: Looking down and southwest at feature 56, narrow wall (upper left in photograph behind feature 55).

Photographer: Diane Rhodes; photographs on file, Acadia National Park.

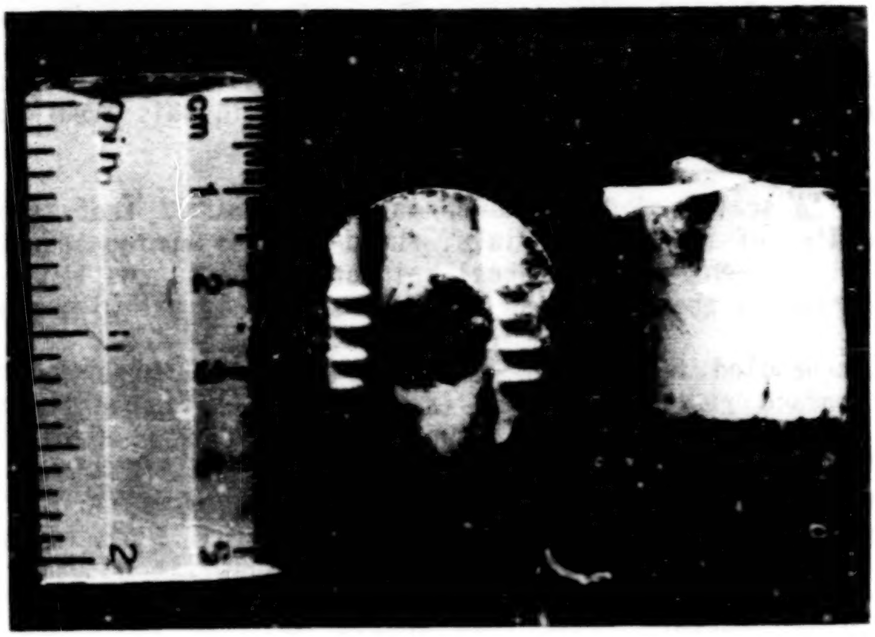


Figure 25: Top and side profiles of base of split ceramic electrical insulator found in soils excavated from the utility line trench near the new comfort station.

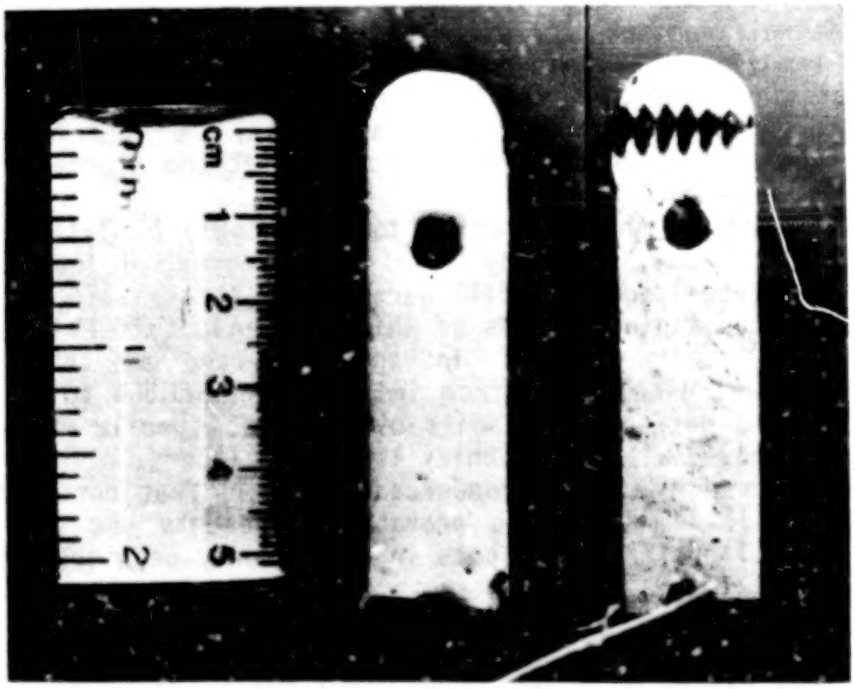


Figure 26: Profiles of half of a double in-line electrical insulator found in the vicinity of the new comfort station.

Photographer: Diane Rhodes; photographs on file, Acadia National Park.

BEST COPY AVAILABLE

of the radio station water tower. The archeological monitor was not present at the time this work was accomplished. However, in compliance actions completed prior to construction, it was agreed that the destroyed concrete pad--one of the four water tower pads present in this area--would be removed during the project.

The blasting scattered debris over an area about 27 feet across, preventing the recording of in situ materials. Lead-covered wiring identical to that in feature 54, broken concrete, steel reinforcing bars, and large chunks of coal were observed in the demolition area. A sample of the wiring was collected.

A ceramic-handled brass item--probably a letter opener--was found on the ground surface near feature 28 (a buried well) during monitoring of the comfort station excavation (figure 27). The words "UCHATIUS BRONCE GERMANY" are inscribed on the blade. "UCHATIUS" is probably the manufacturer's name, and "BRONCE" is an archaic version of the German word for bronze (Mote, personal communication February 1986). This would suggest the item dates to the late 1700s or early 1800s; it actually appears to be much more recent. The blade is machine made, and there is little degradation or corrosion present. This item surely predates World War II because it bears the word Germany--not West Germany. It is likely too that the artifact probably post dates 1896, when laws were passed requiring the addition of the place of origin to a manufactured item. (Hsu, personal communication, March 1986). The country of Germany was created in 1870 after the Franco-Prussian War, so this artifact must postdate this event.

During the first two weeks of November 1984, soil was scraped away from the nonhistoric holding tank once used for the temporary comfort station, and the tank was removed. The hole was enlarged to accommodate one side of the comfort station footings, creating a rectangular excavation about 22 feet north/south by 37.5 feet east/west by about 3.5 feet deep. An interior space of roughly 14.5 feet by 26.5 feet was left undisturbed (figure 28).

At the west end of the excavation for the comfort station, soil profiles showed about .3 foot of sandy loam topsoil over .8 foot of tan silt and gravel fill. Underlying this fill were the characteristic gravel-bearing red sterile silts containing patches of white volcanic tuff at the interface with upper levels. Soil profiles in the east end of the comfort station excavation showed disturbance from installation of the holding tank; i.e. a band of looser, darker brown soils overlay the sterile red subsoils. This profile also showed a 1.0 foot thick layer of cinders, clinkers, and coal ash (feature 58) which was most pronounced about 20 feet north of the dynamited water tower pad. This feature probably represents use of coal combustion products to fill ruts and low spots in the roadway near the pump house or the later ranger station.

A scythe, two pieces of a insulator, flat glass, parts of a tire chain and wire nails were found in excavated soils along the east side of the comfort station excavation. Embossed letters on one piece of the aqua glass insulator read "NEW ENGTE C". It is a screw-type, single skirt insulator, with one indentation for attaching the wiring one-third of the way from the top. It does not have a beaded lip to funnel rain water away from

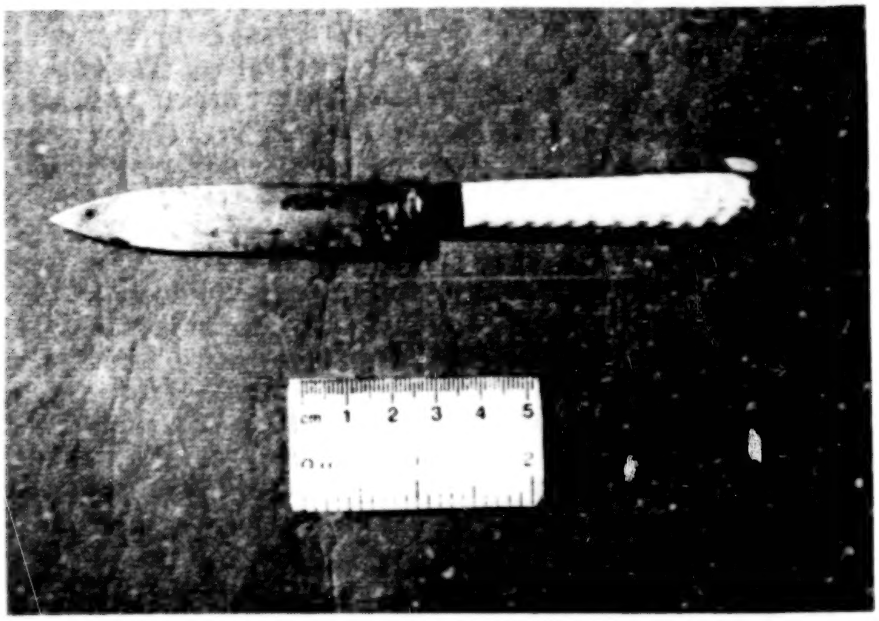


Figure 27: Ceramic-handled brass letter opener bearing the engraved inscription "UCHATIUS BRONCE GERMANY".

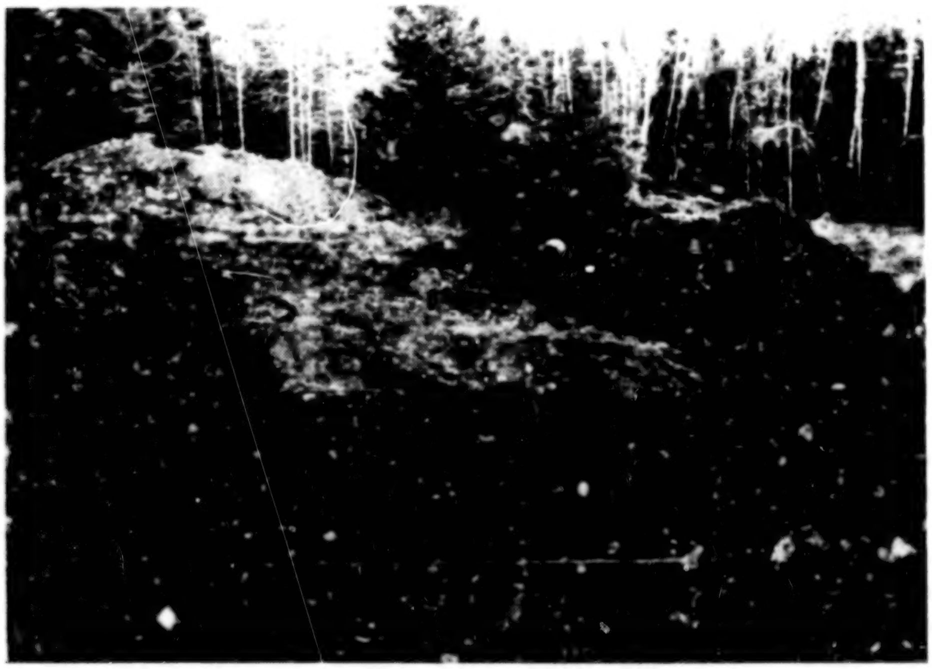


Figure 28: Looking east/southeast at the backhoe excavation for the new comfort station.

Photographer: Diane Rhodes; photographs on file, Acadia National Park.

the post (figure 29). This type of insulator could be used either for telephone or telegraph lines and may date as early as the 1870s (DeVincenzo 1972:165-167; Turner 1968:170-172). This insulator was probably manufactured for the New England Telephone and Telegraph Company (now New England Telephone Company). The company used this type of insulator until the 1960s (Miller, personal communication, February 1986). Unfortunately, insulators--particularly this common design and color--are difficult to date, and no specific date has been established for these fragments.

It is not known if there were telephone lines to Otter's Nest or the later country club, but both telephone and telegraph lines were run into the Otter Cliffs Radio Station (Grindle, personal communication 11 February 1986). The telegraph lines would have been abandoned following razing of the station, but the telephone lines may have been left in place for use at the ranger station. The disastrous 1947 fire burned much of the area north of the Fabbri site; the rest of the telephone lines may have been abandoned at this time (Jordan, personal communication, 10 February 1986). (The ranger station was removed shortly after the fire).

Brush was hand-cleared from the central meadow area south of the access road for the construction project. Once the vegetation had been removed, several lengths of iron pipe were visible on the ground surface. These pipes extended in a northwest/southeast direction (feature 59; figures 4 and 30). These 3/4-inch interior diameter pipes had an intake filter on one end, indicating they were probably used for the water tower and/or pump house and wells (figure 32). They may have been pulled and laid here when the radio station was dismantled in the mid-1930s. Other miscellaneous iron pieces and fragments of concrete and pipe were found in an adjacent 5-foot wide depressed area (feature 30; figures 30 and 32). This feature was at first thought to be a well; testing showed it contained only loam topsoil over undisturbed sterile red sandy silt subsoil. Before the 1983 archeological testing program and project design, park maintenance personnel excavated several areas in the meadow to test soils and drainage and this feature is probably from those tests.

During the week of November 20-27, the contractor excavated the waterline trench from the 1984 well south to the access road, then west along the north side of the access road to a point about 82 feet from the center of the Otter Cliffs road (figure 2). Although plans originally proposed that the waterline and utility lines would be placed in the same trench, the project supervisor ran the water lines in a separate trench 5 feet west of and paralleling the utility line excavation (figure 4). Unfortunately, initial waterline trenching was done without an archeological monitor present because of scheduling problems. However, when a subsurface, brick-lined, electrical manhole (feature 64) was discovered in the backhoe trench, the contractor stopped work until the open line could be inspected by the monitoring archeologist.

Around 60 feet north of feature 8, the waterline trench encountered feature 60, a pocket of charcoal and ash just below an old topsoil layer that in turn was immediately beneath the mixed green clay fill strata associated with the radio station period (figures 33 and 34). Soils around the feature were

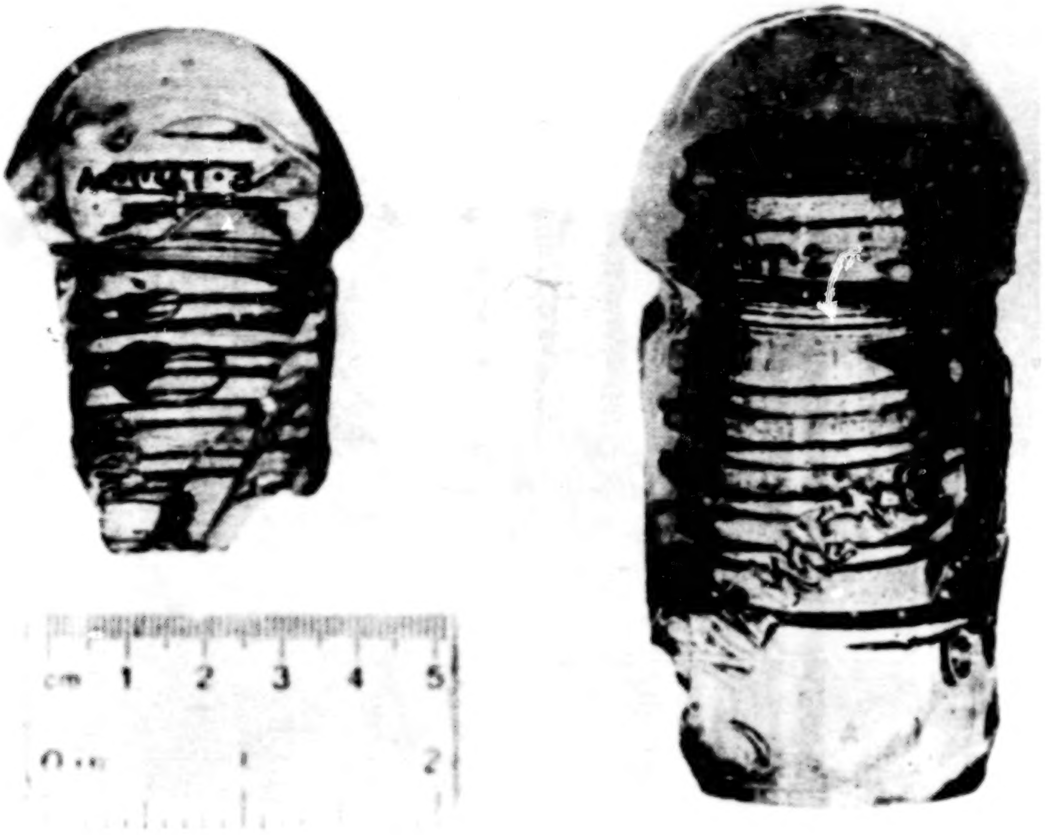


Figure 29: Aqua glass insulator from comfort station excavation. Embossed letters read "NEWENG TE C".

Figure 30: Looking down and north at feature 59, water pipes and intake filter.
Photographer: Diane Rhodes; photographs on file, Acadia National Park.

Figure 31: Looking north toward access road at brush clearing in central meadow area.

Photographer: Diane Rhodes; photographs on file, Acadia National Park.

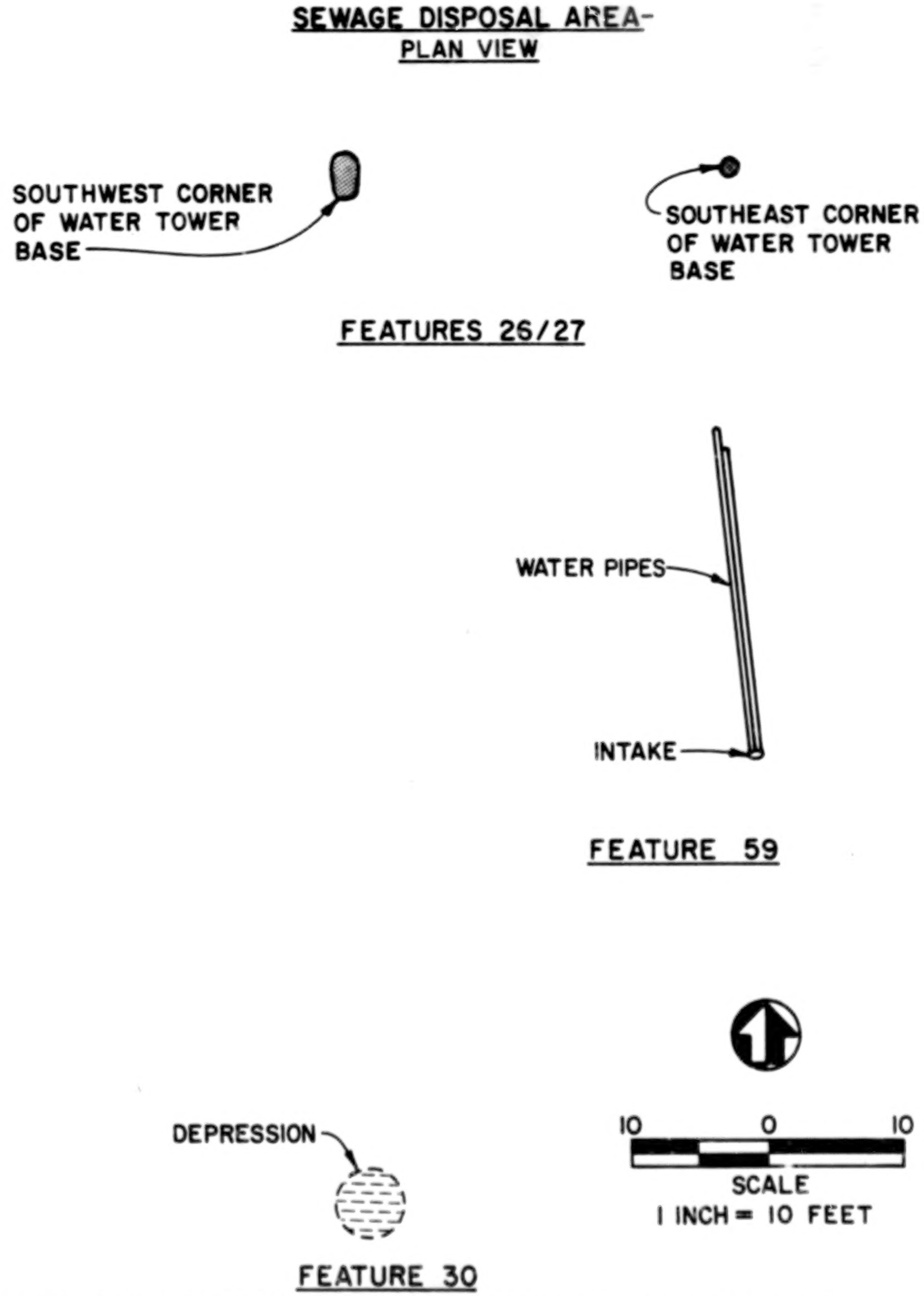
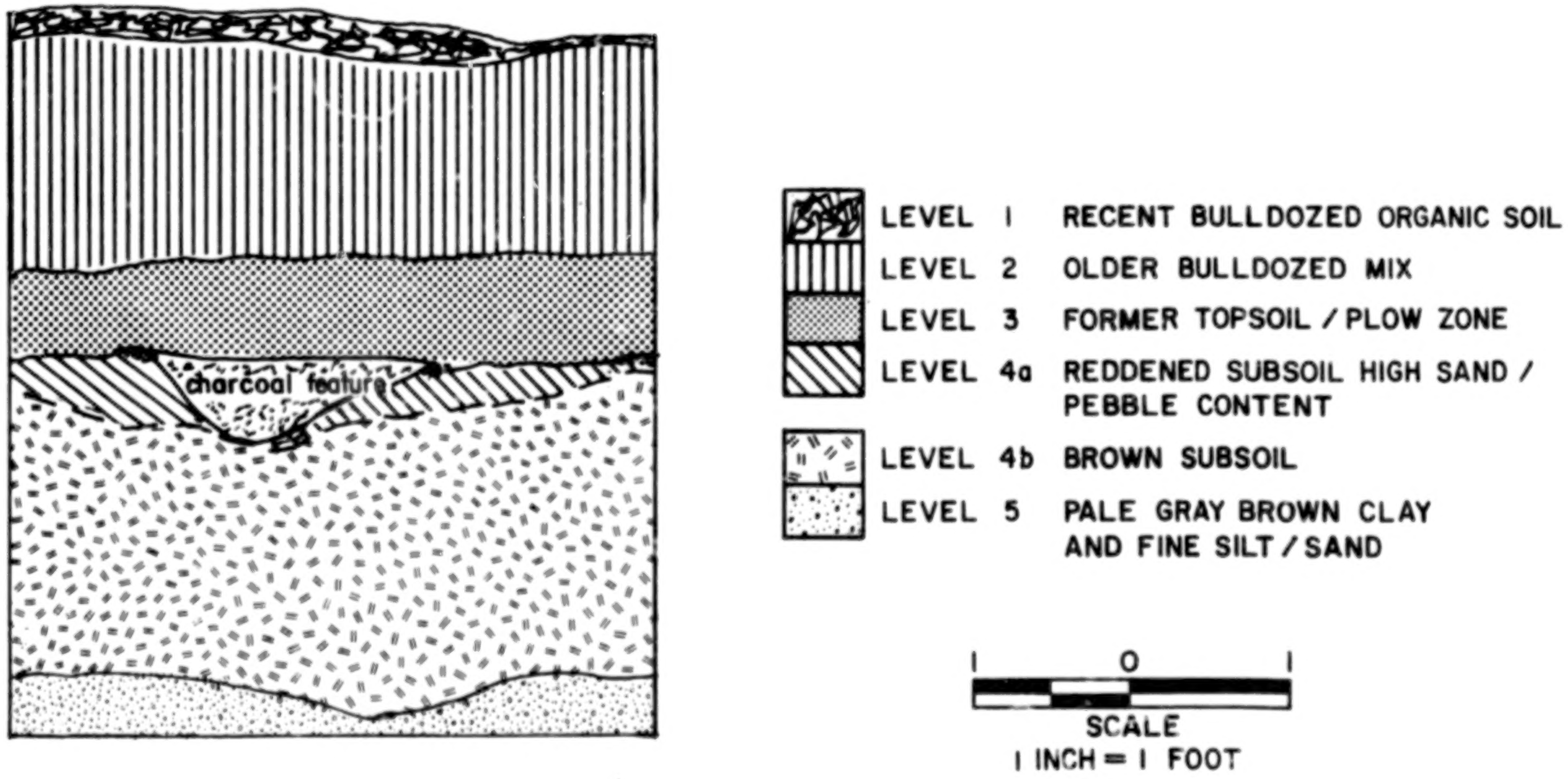


FIGURE 32: PLAN VIEW OF FEATURE 59, WATER PIPES IN CENTRAL MEDOW. SEE FIGURE 4 FOR ORIENTATION TO LARGER PROJECT AREA.

]

PROFILE OF EAST WALL / WATERLINE TRENCH
SHOWING CHARCOAL AND ASH


charcoal feature
LEVEL 1 RECENT BULLDOZED ORGANIC SOIL
LEVEL 2 OLDER BULLDOZED MIX
LEVEL 3 FORMER TOPSOIL / PLOW ZONE
LEVEL 4a REDDENED SUBSOIL HIGH SAND / PEBBLE CONTENT
LEVEL 4b BROWN SUBSOIL
LEVEL 5 PALE GRAY BROWN CLAY AND FINE SILT / SAND
1 0 1
SCALE
1 INCH = 1 FOOT

FEATURE 60

BLANK PAGE

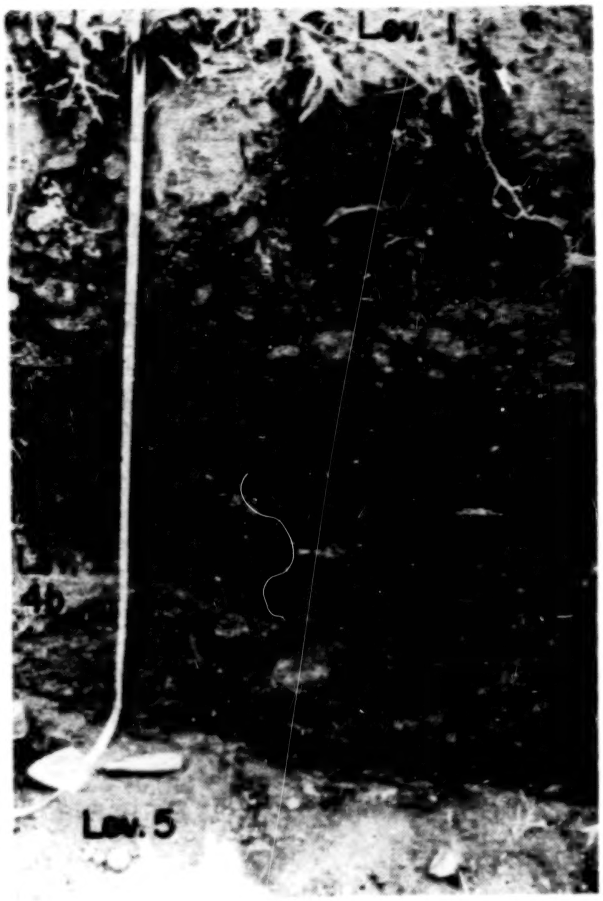


Figure 34: Profile of east wall of waterline trench showing charcoal and ash, feature 60.

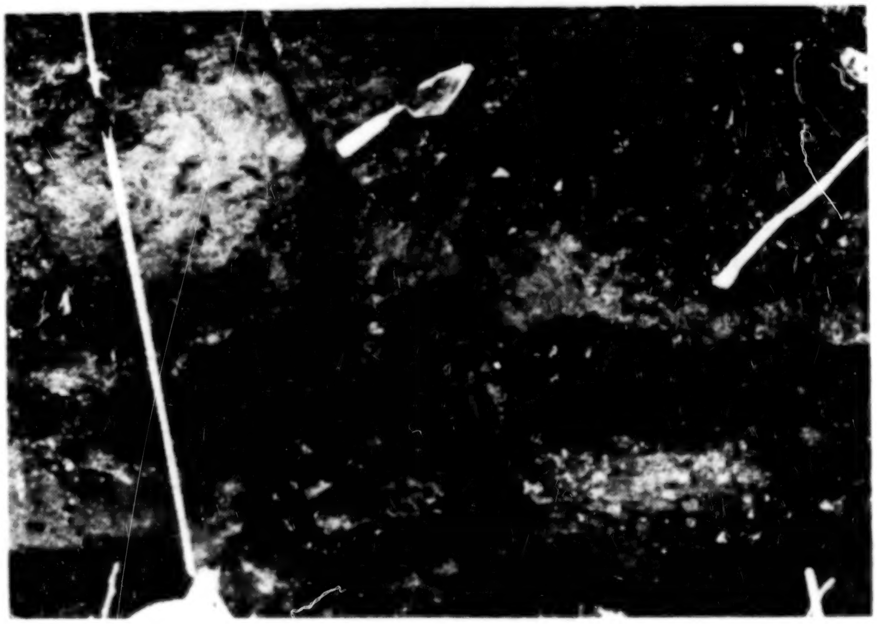


Figure 35: Looking northwest at features 61 and 61A, foundations and lead-covered wiring.

Photographer: Dana Linck; photographs on file, Acadia National Park.

reddened by heat from fire, and a layer of fine gray ash lined the bottom. It is not known how much of the feature was removed by the backhoe, but it was visible only in the east wall of the trench.

The feature was recorded and salvaged. Analysis of materials retrieved from the feature indicates the presence of charred fragments of spruce (*Picea*), and fir (*Abies*), as well as several nonidentifiable coniferous needles. Sedge seeds (*Carex*) and fragments comparing favorably with mulberry (*Morus*) were also present. Seventeen uncharred fragments of *Prunus* pits were found in this feature. There are almost 200 species--both wild and domesticated--of the genus *Prunus*, but the small size of these seeds suggests pin cherry or chokecherry. Other uncharred items from feature 60 include *Rubus* (raspberry, blackberry, etc.), an unidentified piece of wood, and a tiny fragment of bone. The report on this feature has been included as Appendix II of this document (Scott 1986). According to Dr. Arthur Spiess, an archeologist with the Maine Historic Preservation Commission in Augusta, it is not likely that this is a prehistoric feature (Spiess, personal communication, February 1986). Its complexity and the number of edible species present strongly suggest a burned kitchen trash pit, possibly the remains of late summer/early fall canning and preserving activities. Because of its location directly under the old tan soil plow zone, this feature may date to roughly the same period, i.e., the late eighteenth or early nineteenth century. Feature 33, a historic home site, is about 150 feet northwest of this feature, and it is possible that the two are associated.

Expansion of the waterline trench at the access road obliterated remaining traces of the feature, and no evidence of charcoal or ash was found in the utility line trench 5 feet to the east. Water standing in the trench prevented further examination of this sector of the line (Ravenhorst 1984).

A concrete building foundation corner (feature 61; figure 35) about .79 foot thick was uncovered in the waterline trench almost opposite and about 3 feet from feature 60 (figure 4). Excavated soils and the trench profiles suggest that the green clay level was there before construction of the building. Feature 61 is probably part of one of the two radio station garages built in this area (figure 4).

Dana Linck (1984) recorded a lead-encased electrical cable (feature 61A) parallel to the north/south foundation wall of feature 61 (figure 35). This cable was about .58 foot below existing grade, and 1 foot east of the wall. It had an interior fiber and rubber casing containing 7-strand copper wire. Ravenhorst (1984) reported burned electrical lines in the same area (feature 61B) about 2.0 feet below existing grade.

The northwest corner of a brick manhole, feature 62, was exposed in the southeast wall of the waterline trench at its intersection with the access road (figures 4 and 36). The bricks lining the manhole walls were rough cut on one face; the other face had "D B + CO" in raised letters. The top of the manhole was supported by railroad rails about 1.0 foot below existing grade. This manhole was part of the electrical distribution system. A concrete duct or casing (feature 63; figure 37) ran between feature 62 and the next

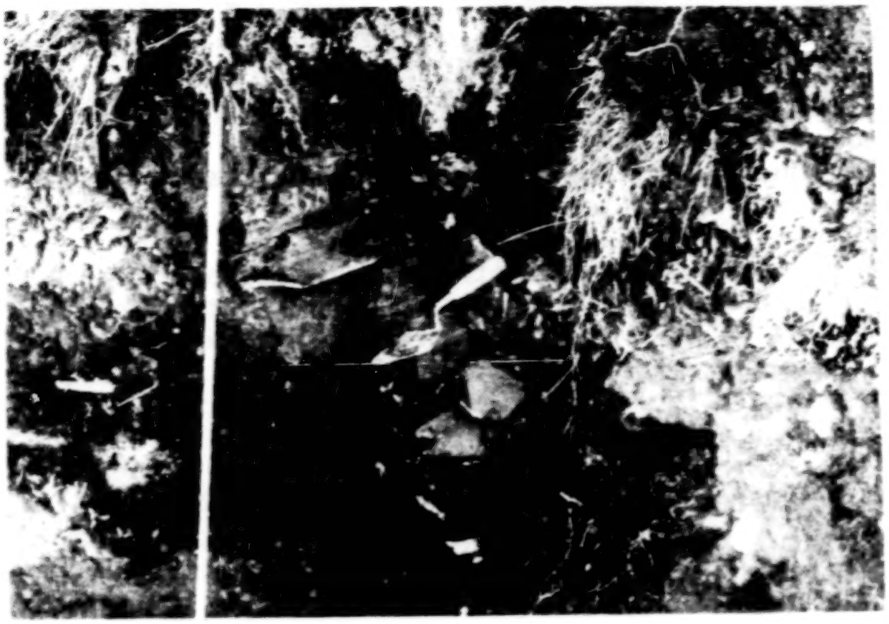


Figure 36: Looking down and southeast at exposed corner of feature 62, brick-lined electrical manhole.

Photographer: Dana Linck

Figure 37: Looking north at remnants of feature 63, concrete duct for electrical conduit.

Photographer: J. Ravenhorst; photographs on file, Acadia National Park manhole to the west (feature 64).

A 6-inch diameter cast-iron pipe was found about 100 feet west of the Otter Cliffs road. The pipe, a continuation of feature 53, was perpendicular to and north of the access road (figure 38). This cast-iron pipe was used as a conduit for electrical cable.

A multistrand 1-inch diameter electrical cable was pulled up by the backhoe 7 feet west of feature 53. The original depth of this feature, no. 65, was unknown, but the remaining portion reentered the ground 2 feet north of the waterline trench. An 11-feet long section of 2-inch pipe of unknown provenience was also found in this area. (The provenience was not recorded because the trench wall collapsed immediately after its removal.)

Feature 64, another brick, concrete, and iron rail electrical manhole (figure 39), was found 75 feet east of feature 7. The top 2 feet of this feature were damaged by the backhoe. The monitor noted that the interior had been partially filled with dirt prior to this excavation. After this manhole was recorded, the water linetrench was cut through it, removing the north half. This manhole appeared to have been identical in size, shape, and construction to other electrical manholes along the access road. A 1-inch insulated electric line was also found in this area.

Although unaffected by this project, the interior of the next manhole to the west, feature 7, was recorded and mapped during equipment downtime. Another manhole, feature 66, was found 50 feet northwest of feature 53. Figures 4 and 40-43 illustrate these features. Feature 66, a soil-filled brick and concrete manhole, lacked the cast-iron collar that was common to those along the roadside. This feature may be of a different construction date, the collar may have been removed, or the manhole may have been used for a different purpose. No manholes, dry wells, or hydrants are shown in this area on historic maps.

Another section of the concrete casing or duct (feature 63) used for high voltage electrical wiring was uncovered between the two manholes (features 7 and 64), parallel to the road, and about 3 feet below the existing grade.

Excavation for the elevated sand mound (sewage disposal mound), water storage tank, and one utility manhole was completed during the last week in November. The top of one of the four tapered concrete pads or footings (feature 26/27) that once supported the water tower was chipped off 1-to 1-1/2 feet with heavy equipment (figure 44).

Final grading of the meadow to an 8-inch depth unearthed an aqua soda water bottle bearing the embossed mark of Switzer Bottling, S. Brewer, Maine (figure 45). The Switzer Water Company, 457 South Main Street, Brewer, Maine, was organized in 1905. It appears to have been a locally owned business run by the Pooler family. In 1916 the company was described as "manufacturers of soft beers" (i.e. non-alcholic) (Ewing, personal communication, February 1986). The company was listed in various Bangor,

Figure 38: Waterline trench along north side of access road. Feature 53, cast-iron pipe, is near the center of the photo.

Photographer: Dana Linck

Figure 39: Looking north at electrical conduit outlets from feature 64.

Photographer: J. Ravenhorst; photographs on file, Acadia National Park.

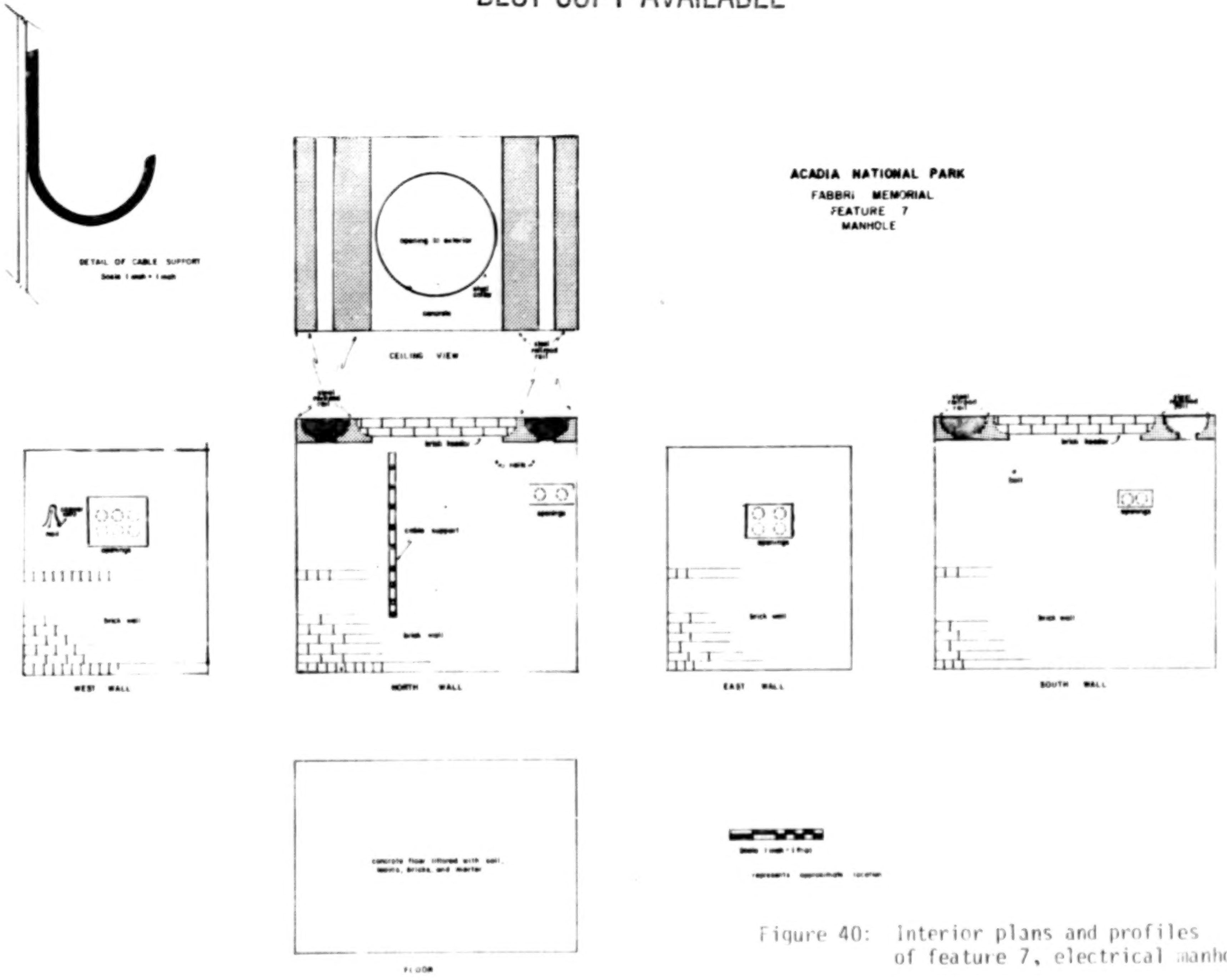


Figure 40: Interior plans and profiles of feature 7, electrical manhole.

BLANK PAGE

Figure 41: East interior wall of feature 7 showing conduit apertures for electrical wiring (since removed).

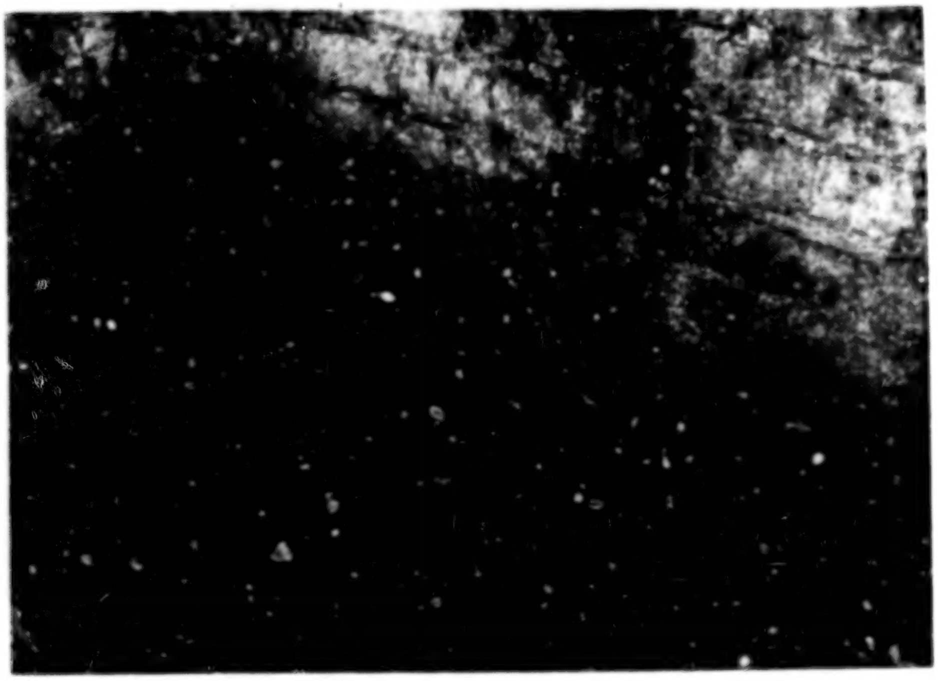


Figure 42: Northwest interior wall of feature 7 showing wall hangars used to support heavy-duty electrical cable.

Photographer: John Shafer; photographs on file, Acadia National Park.

Figure 43: Looking west at plan view of filled-in manhole, feature 66.

Photographer: Diane Rhodes

Figure 44: Looking southeast at remnants of southeastern pad for water tower.

Photographer: J. Ravenhorst; photographs on file, Acadia National Park.

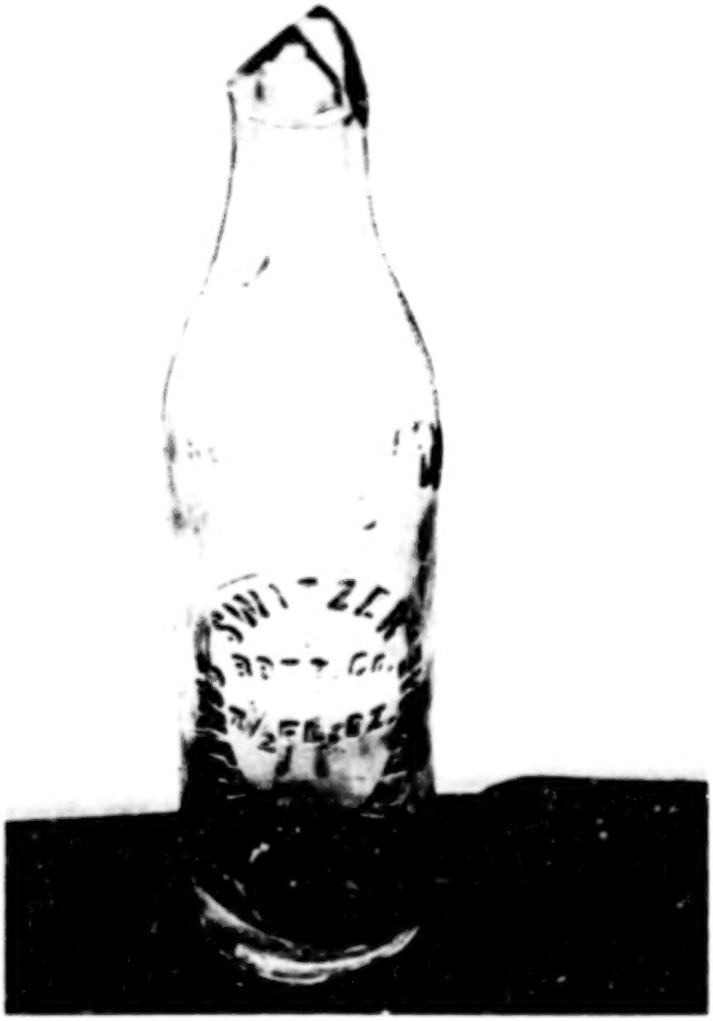


Figure 45: Soda water bottle manufactured by Switzer Bottling, S. Brewer, Maine.

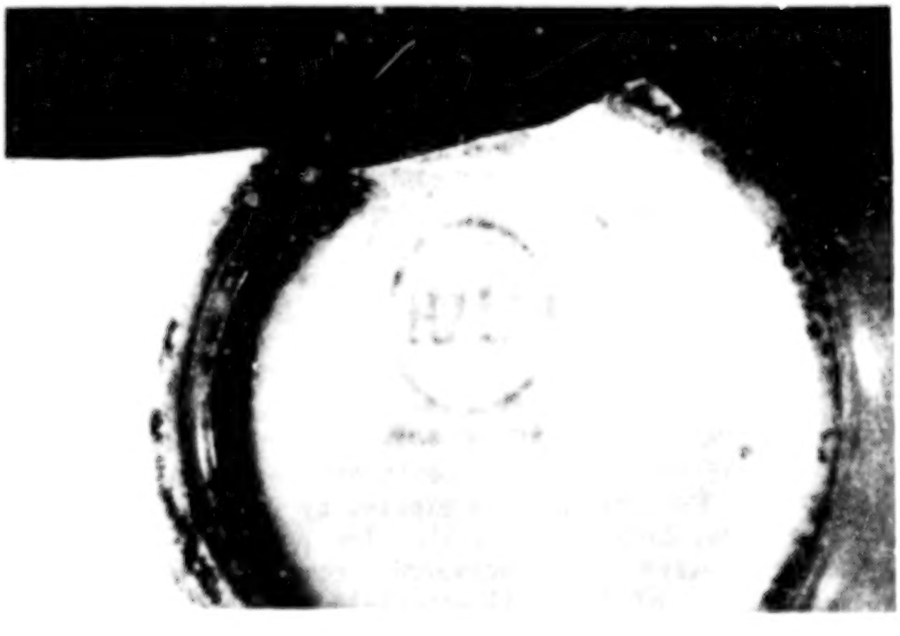


Figure 46: Whiteware bowl found in sewage disposal area. Maker's mark reads "HALL MADE IN USA."

Photographer: Diane Rhodes; photographs on file, Acadia National Park

Maine directories from 1905 through 1921-1922. By the 1920s the company address had been changed to 494 Main, South Brewer, Maine. The crown top and cup-molded base are compatible with bottle manufacturing technology of this period; and it is possible that the bottle dates to either the country club or radio station era. No other features or artifacts were observed in this area following the grading.

A heavy, hard, whiteware bowl was found toward the east end of the central meadow. The maker's mark on the bowl base indicates the item was manufactured by the Hall China Company (Figure 46). This East Liverpool, Ohio, firm, founded in 1904, is still in business. The Hall Company produced a variety of ceramic products, including vitrified fireproof cooking china and dinnerware. Several different maker's marks used by the Hall Company over the years are pictured in a 1982 article by William Gates and Dana Ormerod (1982:56-78). Three of the maker's marks for "vitrified china" shown in this article are similar to that found on the bowl recovered from the Fabbri site (1982:58). The first mark was used by the Hall Company from 1911 to present; the other two were in use from circa 1930 to date (Gates and Ormerod 1982:58). Thus, the bowl may date to the country club era, to site use by the Navy from 1917 to 1935, or it may have been dumped here after the radio station was dismantled.

Inclement weather delayed construction considerably during the first part of December, but excavations 8 feet square by 6 feet deep were completed for two pull boxes (figure 4). During this period, the waterline trench was completed, the water storage tank was installed, and final grading of the sand mound area was accomplished (figures 47 and 48). No artifacts were recovered from the pull box or water storage tank excavations (Ravenhorst 1984).

After paralleling the access road for 34 feet, the waterline trench was angled southwest across the road toward the comfort station (figure 2). At the bend in the waterline trench, another east/west section of the concrete duct (feature 63) was found between features 7 and 65 at 3 feet below the existing grade. The duct held fine sand and two interior conduits. The access road profile included asphalt pavement to .25 foot below surface, .50 foot of a gray sub-base, orange clay and rocks to 3.5 feet below the surface, and subsoil to a depth of 5 feet. Feature 67, a 6-inch cast-iron pipe, was found thirteen feet southwest of the bend in the trench. The pipe ran east/west, 5 feet from the north edge of the road pavement (figure 4).

On the south side of the access road, the waterline trench intersected another concrete duct at 3.0 feet below the existing grade (figure 4). This north/south casing (feature 68) contained two interior "tarpaper" conduits and connected the brick-lined manholes designated as features 7 and 69. A portion of the manhole, feature 69, was exposed by the trench. This manhole was full of ash, cinders, brick, and soil. The provenience of the tan and ivory wide-mouthed stoneware jar recovered from the manhole is unknown because the date and source of the fill materials has not been determined.

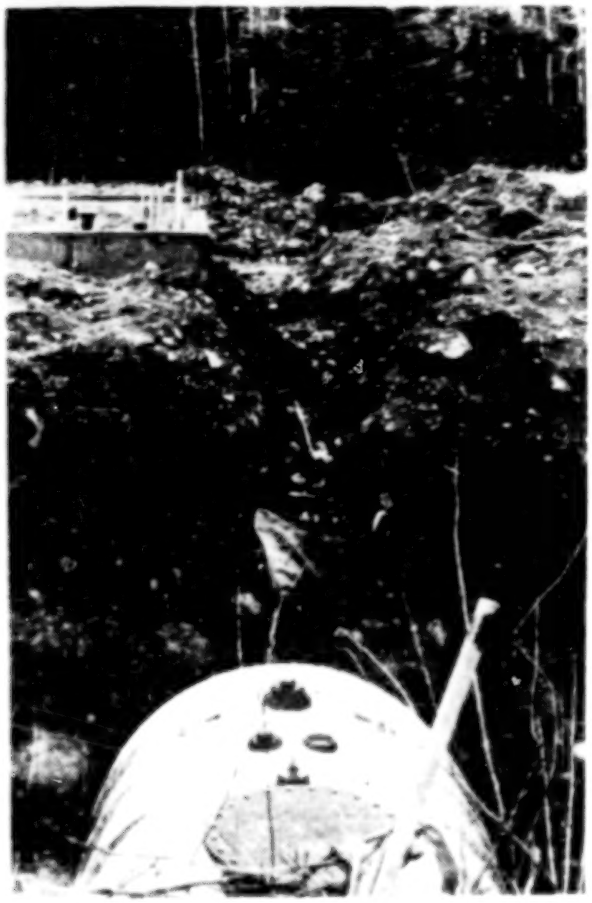


Figure 47: Looking east at water storage tank in place, aligned with comfort station.

Figure 48: Looking west toward Ocean Drive at grading for sewage disposal mound.

Photographer: J. Ravenhorst; photographs on file, Acadia National Park.

Feature 78, the northwest corner of a foundation (.67 foot thick) thought to belong to the radio station pump house, was intersected and removed by the waterline trench 28 feet northeast of the southeast corner of the comfort station (figure 49). A subsurface 1-1/2-inch waterline and an electric cable intersected the foundation corner from the west. An 8-inch cast-iron waterline (feature 70) with a 1-inch tap on top was found at 4 feet below the existing grade. It was aligned with the water tower (figure 4).

Construction halted by bad weather in mid-December 1984 was resumed in late April 1985, and work began on the north side of the access road. Trail corridors 8 to 10 feet wide were cleared so that 4-feet wide wood chip paths could be installed. Bulldozer clearing of the picnic and trail areas on the north side of the access road exposed and obliterated a portion of a concrete pad containing 1-inch threaded steel rods. Although some distance from its mapped location (figure 4), this feature was thought to be the northernmost spark tower pad (feature 71; Seidel 1985b).

Another pipe, designated feature 79, was found northeast of feature 71; it ran northeast toward the Barracks B foundations (figure 4). No artifacts were found in association with these three features (Seidel 1985b).

Grading also exposed a rectangular concrete slab (feature 74) adjacent to feature 20, the foundation of Barracks B (figure 4 and 50). Feature 74 appeared to be similar in configuration to and aligned with features 18 and 19. Seidel (1985b) indicated that feature 74 might be another set of steps or supports for the porch of Barracks B.

Grading of the old parking lot south of the access road (4 inches deep) exposed a 2-inch diameter iron pipe (feature 72) running southwest/northeast and an intersecting (but not contiguous) 2-foot wide pipe(?) trench (feature 73; figures 4 and 51). Before asphalt was applied to the parking lot surface, these features and the parking area were covered with 6 inches of crushed gravel.

Feature 41-C, a pile of granite blocks from a washed-out area in the swan pond dam, was moved during construction of a nearby picnic site. A gravel deposit (feature 75) was also obliterated during clearing for the picnic site. This gravel deposit may represent incidental road work on Ocean Drive or it may have been from radio station roads/paths. Although a small backhoe was used to excavate areas for concrete footings under the tables (3 feet square by 4 feet deep) and garbage cans and grills (2 feet square by 4 feet deep), no artifacts or features were identified in the picnic site excavations.

Figure 49: Looking east at feature 78, pump house (?) foundation.

Photographer: J. Ravenhorst

Figure 50: Looking north at feature 74, concrete steps/support for Barracks B porch.

Photographer: Lysbeth Acuff; photographs on file, Acadia National Park.

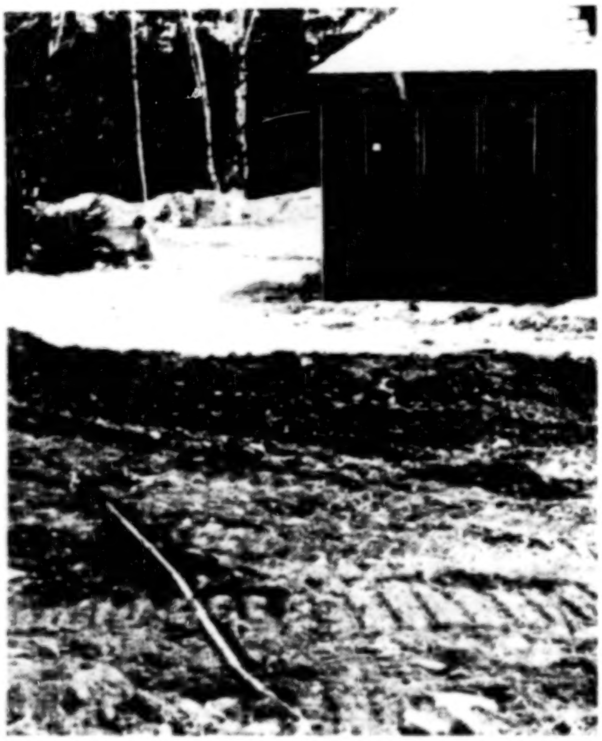


Figure 51: Looking southeast at feature 70, ferrous pipe in parking lot area.

Photographer: Ellen Seidel; photographs on file, Acadia National Park.

CONCLUSIONS

Generally, interpretation and explanation of the features and artifacts found during this project are fairly straightforward and uncomplicated. However, like many other projects, there are a number of unanswered questions, some of which could be resolved by additional research and field work.

Not a great deal is known about features 49 and 51, the two historic sites along the Otter Cliffs road. The artifacts found in the backhoe trench and in these features seem to indicate site use over a fairly long period of time, perhaps from the early to mid-1800s well into the 1900s. In both cases, the artifacts found in these features are compatible with household use (table 1). Several items found on top of the debris in the cellar of feature 51 appear to be more recently deposited trash. Because both sites are close to a small community and a well-used road, it is likely that some dumping has occurred here over a period of years, helping to complicate interpretation of the resources.

Provenience of the artifacts found in the trench near feature 51 may be somewhat questionable; the artifacts apparently had been mixed during an earlier period of road construction. However, the few items found near feature 49 appear to be associated with this historic site because most were found slightly west of the roadbed in undisturbed soils. The dearth of items in the utility line trench between these two historic sites would suggest that there is a close association, in both cases, between the artifacts and the respective features.

The integrity of these two sites was not compromised by the trenching project because almost all of the excavation occurred in the roadbed and/or fill. Further research should be done to determine the role of these sites in the community and in the early history of Mount Desert Island. It is possible that feature 49 was used as a residence and/or business during the period when the Otter Cliffs Radio Station was active. If so, knowledge about this historic site might add to our understanding and interpretation of the Fabbri site. Although no activities are underway or planned that would damage these two historic sites, the sites should be researched and evaluated for their National Register significance, and provisions should be made for them in the park's resource management plan.

Most of the remaining features and artifacts found during the project monitoring can be related directly to one or more of the radio station systems described earlier. For example, feature 67, a 6-inch cast iron pipe, was probably part of the line that ran under the roadway to connect the water tower and the administration building area (figure 4). The 1-1/2-inch line found at feature 78 is puzzling because maps indicate that a 2-inch line extended from that corner of the structure. However, a bit farther west the 2-inch line links with a 1-1/2-inch line connected to Barracks B, so feature 79 and feature 78 lines may belong to this portion of the system. Feature 72, a 2-inch pipe, is almost certainly one of the two feeder lines leading to Barracks B from the main waterline. The 8-inch main distribution line was encountered by the new waterline trench as feature 70 (figure 4).

Feature 59 appears to be part of the well or water tower piping, left behind when the station was razed. Remnants of one of the station wells and/or the ranger station septic tank may also have been destroyed by the blasting of the subsurface "granite ledge" because the principal type of debris found in the blasted area was concrete rather than granite.

A few of the pipes found during the construction project cannot be directly associated with either the water or sewer system. Feature 52 is outside the water and sewage distribution systems shown on various station maps. Although this pipe may be related to the garage or one of the structures in this general vicinity, it also may have been discarded here. The long section of 2-inch pipe found just west of feature 53 may also have been a discard or part of the interior plumbing for adjacent structures because period maps show only 1- and 4-inch lines in this vicinity.

A great deal of electrical power was necessary for station operation. Many of the features and artifacts discovered during the project are related to power or radio transmission. Several of the concrete ducts and electrical manholes shown on the 1921, 1924, and 1934 station maps were located during the project. None of the maps show lines or conduit in the vicinity of feature 53. It is possible that the cable (part of feature 53) was a signal transmission line rather than an electric line. If so, the large cast-iron pipe may have been used to trap and radiate energy from the cable into the surrounding soil so that there would be little or no interference with station reception; concrete ducts would not provide the same shielding qualities. However, feature 53 may simply be part of the electrical system --the pipe used because of its ready availability and/or its protective qualities to keep road traffic from injuring the electrical cable.

Cable in electrical manhole feature 64 was typical high-voltage wiring used to carry power from the administration building/operating room to other station facilities. Some of the other on-site wiring was not carried in conduits, but was direct-burial wiring, protected from damage and the elements by a lead coating. Features 54, 61-A, 61-B, and wiring found adjacent to feature 78 were of the flexible, lead-covered, direct-burial type--common house wiring during the first half of the twentieth century. Because the ranger station was built shortly after the radio station was razed, it is difficult to tell if this direct-burial wiring was part of the base utility system or the later ranger station power. Also, it is not totally clear if the several different types of wiring represent an evolution of systems over time, special uses, or availability of supplies. However, the direct-burial wiring appears to be somewhat newer than the cable from feature 64 (Zieman, personal communication, October 1985). No direct-burial wiring is shown on the 1934 Naval site maps.

Four brick-lined manholes (features 62, 64, 66, and 69) were found during the construction project. Features 64, 66, and 69 had been filled previously, possibly during station razing in 1935. Insofar as could be determined, features 64 and 69 were nearly identical to each other, varying only in the number and direction of electrical conduits contained. These manholes were connected by concrete ducts that contained high-voltage electrical cables. One manhole, feature 66, cannot be related directly to either the electrical or the water system, but its general construction is similar to the electrical manholes elsewhere on the station grounds. Brick manufacturers operating in Maine during this period were researched but the maker of the D B & CO bricks used in manhole construction could not be determined without further research. A phone interview with the former owner of the Dennis Brick Company elicited the information that their bricks were not so marked within the recent past (Dennis, personal communication, 1985). The company was in existence during the radio station period, however, so it is possible that the brick may have come from this local source.

Railroad rails were also used in the construction of these manholes (features 1, 7, 62, and 64). At least one of the rails bore the imprint "Bethlehem Company"--presumably the Bethlehem Steel Company in Pennsylvania. These rails were probably chosen for their availability or expediency rather than an a necessary construction item. Comparison of Navy maps indicates that station manholes were probably installed in 1920.

The location and orientation of several of the foundations found during excavation is also puzzling. When first encountered by the backhoe, feature 55 was thought to be the pump house foundation. The slight difference in orientation was attributed to previous mapping errors. However, when feature 78 was mapped in, it appeared to be much closer to the original location of the pump house as shown on Navy maps. There are two, perhaps three, foundations of the same material and general configuration but at slightly different orientations in this general area. This portion of the site had been disturbed several times by razing of the radio station, construction of the ranger station and parking lot, and installing of the septic and holding tanks. No builder's trenches were observed near features 55, 56, or 78. If the backfill along the footings was removed one or more times to pour new footings, the original builder's trench would no longer be visible or would present a confusing mix of strata. Therefore, these foundations may represent different periods of construction, undocumented additions made to the original radio station structures, or additional structure(s) unrecorded on Navy maps. It should be noted that--according to local informants--the ranger station was built on wooden posts or piers and foundations of this size and depth would not be needed for the 1940s structure.

The concrete and aggregate used in all three foundations appeared to be very similar to that found in other nearby radio station foundations. Features 55, 56, and 78 probably represent two or three separate incidents of building activity, perhaps to modify the pump house as part of the station fire protection plan or to enlarge it to cover both wells. It should be noted that the concrete "curb" (feature 25) at the south center end of the pump house may also have been part of the pump house.

Figure 57 is thought to be a ground rod for either a telephone or electrical system of some sort. No evidence of telephone wiring was seen during the project, but broken insulators were collected not far from this area.

Feature 71 was thought to be the remnants of the north spark tower pad. However, based on naval maps, the feature was found some distance west of its anticipated location. The concrete slab may have been moved during station razing or during this construction project. Several small, unmapped structures are shown on an nearly illegible 1930s aerial photograph of the base (Rhodes and Naglich 1985:61). It is possible that this concrete pad belongs instead to one of these small structures. The previous archeological survey identified another such slab, with inset bolts, on the far east end of the site as a base for a small building.

The concrete slab (feature 74) found during construction of the picnic areas and paths was similar in size and configuration to those identified earlier as part of the porch steps or supports for Barracks B.

Judging by local construction practices, older structures in the area were built of coarse-grained red granite; newer construction, i.e. World War I vintage work, used the finer-grained gray granite. All of the stone used in the radio station construction was gray granite. However, the old entrance roadbed used crushed red granite gravel which may indicate that this road, which follows 1860s property lines, long predates the radio station. The 1920s radio station east/west roadbed was still visible under the present access road, in approximately the same corridor.

Feature 75 was a gravel deposit that may have belonged to one of the gravel paths built throughout the station. The original entrance road and guard station were close to this feature. It may also represent incidental deposition from construction of Ocean Drive or the earlier swan pond.

In summary, the monitoring program enabled archeologists to verify period maps, gain additional knowledge of the subsurface resources in this area, and to mitigate part of the impact of construction activities. Additional data on soil strata and composition compiled during this project will provide excellent background data for future work.

RECOMMENDATIONS

It is suggested that further research be initiated to document the background of the two historic sites found along the Otter Cliffs road and to determine their National Register eligibility. The park resource management plan should be revised to include these sites and the Fabbri site to ensure protection and sound management of these historic resources. Information gained from this project could be used in the park's interpretive program as well.

ACKNOWLEDGMENTS

The author wishes to acknowledge, with thanks, the following individuals and institutions whose gracious assistance contributed to production of this report:

- Acadia National Park Staff
- Lysbeth Acuff, Cooperative Park Studies Unit in Archeology, Washington, D.C.
- Joe Bell, National Park Service, Denver Service Center
- Mike Bracy, Otter Creek, Maine
- Craig Cellar, National Park Service, Denver Service Center
- Abigail Ewing, Bangor Historical Society, Bangor, Maine
- Fred Grindle, Bar Harbor, Maine
- Charley Jordan, Ellsworth, Maine
- Dana Linck, National Park Service, Denver Service Center
- Charley McDaniel, U.S. Navy Security Group Activities, Winter Harbor, Maine
- Ed Miller, New England Telephone Co., Bangor, Maine
- James Mote, National Park Service, Denver Service Center
- John Ravenhorst, Cooperative Park Studies Unit in Archeology, Washington, D.C.
- Ellen Seidel, Cooperative Park Studies Unit in Archeology, Washington, D.C.
- John Shafer, Maintenance and Communications Engineering, National Park Service, Denver, Colorado
- Arthur Spiess, Maine Historic Preservation Commission, Augusta, Maine
- Cynthia Thurston, Postmistress, Otter Creek, Maine
- Austin Walls, Otter Creek, Maine
- Norm Walls, Acadia National Park, Maine
- A. Whitfield Watkins, National Park Service, Denver Service Center
- Ron Wrye, Superintendent, Acadia National Park
- Richard Young, Acadia National Park, Maine
- Don Zieman, National Park Service, Denver Service Center

REFERENCES

Acuff, Lysbeth, Cooperative Park Studies Unit in Archeology, Washington, D.C.
1985 Field notes and photographs. On file, Acadia National Park, National Park Service.

DeVincenzo, Ralph
1972 Fleamarket Shopper, Dafran House Publishers, New York.

Gates, William C. Jr. and Dana E. Ormerod
1982 "The East Liverpool Pottery District: Identification of Manufacturers and Marks", Historical Archaeology, 16 (1-2):1-358.

Hadlock, Wendell S.
1963 A Historic and Archeological Sites Survey of Acadia National Park and Adjacent Territories. On file, Acadia National Park.

Hovenden, Herbert C.
1979 History of Otter Cliffs Radio Station, Bar Harbor, Maine. Typed manuscript on file, Jessup Memorial Library, Bar Harbor, Maine

Linck, Dana, Archeologist, Denver Service Center, National Park Service
1985 Field notes, drawings, photographs, and trip report, 28 January 1985. On file, Acadia National Park, National Park Service.

Ravenhorst, John, Coop. Park Studies Unit in Archeology, Washington, D.C.
1984 Field notes, drawings, and trip report. On file, Acadia National Park, National Park Service

Rhodes, Diane Lee, Archeologist, Denver Service Center, National Park Service
1984 Trip report, 4 December 1984, field notes, photographs, drawings. On file, Acadia National Park, National Park Service

Rhodes, Diane Lee, and Dennis Naglich
1985 Archeological Investigations at Fabbri Memorial, 1983. National Park Service, Denver Service Center, Northeast Team.

Rubertone, Patricia E., Peter F. Thorbahn, Cynthia Wood, and Nain E. Anderson
1979 Background Study of Historic Period Resources in Acadia National Park. Prepared for the Division of Cultural Resources, North Atlantic Regional Office, National Park Service. On file, Denver Service Center, National Park Service

Scott, Linda J.
1986 Macrofloral Remains from Acadia, Maine. Manuscript on file, Denver Service Center, National Park Service. February, 1986. (Appendix II, this document).

Seidel, Ellen, Archeologist, National Park Service, Denver Service Center

1985a Field maps and trip report, 8 April 1985. On file, Acadia National Park, National Park Service.

1985b Field maps and trip report, 5 August 1985, On file, Acadia National Park, National Park Service.

Turner, Thomas Edward

1968 Old Timey Stuff. Published by the author, Mesquite, Texas.

PERSONAL COMMUNICATION

Dennis, _______, Owner, Dennis Brick Company
1985 Telephone interview, September, 1985.

Ewing, Abigail, Bangor Historical Society
1986 Letter to Diane Rhodes, listing titles from the Bangor/Brewer city directories of 1907 and 1921-22, 9 February 1986.

1986 Telephone interview, 10 February 1986.

Grindle, Fred, Retired radioman, Otter Cliffs Radio Station
1986 Telephone interview, 12 February 1986

Hsu, Dick, Regional Archeologist, North Atlantic Region, National Park Service
1986 Telephone interview, March 1986.

Jordan, Charley, Retired, New England Telephone Company
1986 Telephone interview, 10 February 1986.

McDaniel, Charley, U.S. Navy, Winter Harbor, Maine
1985 Telephone interview, September, 1985.

Miller, Edward, New England Telephone Company, Bangor, Maine
1986 Telephone interview, 11 February 1986

Mote, James, Historian, Denver Service Center, National Park Service.
1986 Personal communication, 13 February 1986.

Shafer, John, Maintenance and Communications Engineer, National Park Service, Denver.
1986 Telephone interview, 10 February 1986.

Spiess, Arthur, Maine State Historic Preservation Commission
1986 Telephone interview, 11 February 1986.

Thurston, Cynthia, Postmistress, Otter Creek Post Office
1985 Telephone interview October 1985; quoted Mike Bracy and Austin Walls, Otter Creek, Maine.

Walls, Austin, Otter Creek, Maine
1985 Interview by Cynthia Thurston, date unknown.

Walls, Norm, Acadia National Park
1983 Personal communication, August, 1983

Watkins, A. Whitfield, Planner, Denver Service Center, National Park Service
1986 Personal communication, 13 February 1986.

Young, Richard, Chief of Maintenance, Acadia National Park
1983 Telephone interview 20 August 1983.

Zieman, Don, Electrical Engineer, Denver Service Center, National Park Service.
1985 Personal Communication, October, 1985.

APPENDIX I, TABLES

Table 1: Artifacts Located During Construction Monitoring, 1984-1985

Closest Adjacent Area/feature number	Artifact number	Description
Feature 28	A.M.F28.1	Letter opener(?), brass blade, decorative white ceramic handle. Blade has inscription "UCHATIUS-BRONCE GERMANY"; blade discolored from heat (repair or attachment)
Feature 49	A.M.F49.1	Dark brown ceramic agateware doorknobs (2) connected by corroded ferrous shaft; 1800s-
	A.M.F49.2	Aqua glass telephone/telegraph insulator sherd; beaded rim
	A.M.F49.3	Number not used
	A.M.F49.4	Large ferrous horseshoe
	Vicinity	Bottle with legend "Kemp's Balsam for Throat and Lungs," ceramic insulators, shoe leather, barrel hoops, gray salt-glazed stoneware, gray graniteware pans, gilt-edged whiteware, stoneware crock, shell, kerosene lamp parts, amethyst-colored glass, medicinal bottles, porcelain, cast-iron oven door, milk glass, curved sheet metal, etc.; not collected
Feature 51	A.M.F51.1	Whiteware, blue spatterware body sherd, burned
	A.M.F51.2	Whiteware plate rim sherd
	A.M.F51.3	Porous salt-glazed stoneware body sherd from a heavy storage vessel with light brown lead glaze exterior; dark brown Albany slip interior, 1800-

Table 1: Con't.

Closest Adjacent Area/feature number	Artifact number	Description
	A.M.F51.4	Whiteware plate rim sherd, curvilinear molded decoration
	A.M.F51.5-6	Two whiteware plate base sherds mends; one piece has "-ROS"on reverse
	A.M.F51.7	Porous salt-glazed stoneware base sherd, heavy storage container--exterior glaze like artifact 3, this feature; may also have Albany slip on interior
	Vicinity	Small fragments of brick and mortar, heavy aqua apothecary glass, brass suspender buckle, ferrous trivet or handle, cut nail, stoneware lid with dark brown glaze, unglazed redware, window glass, post 1905-pre 1917 amethyst-colored bottle base, green glass
	Cellar	Depression-ware glass fragments, wire rug beater, bricks of several sizes and grades, tank, saw parts, tools, flat sheet lead pieces, strapping metal, etc.; not collected
Feature 55	A.M.F55.1	Corroded ferrous strap hinge part; two and a half screw holes present
	A.M.F55.2-3	Two whiteware sherds, curved vessel
	A.M.F55.4	Lower part of two-piece white ceramic split insulator.
	Vicinity	Window glass, rubber knob, rubber-insulated wire, iron rod, copper wire, ferrous ground rod; not collected.

Table 1: Con't.

Closest Adjacent Area/feature number	Artifact number	Description
Feature 64	A.M.F65.1	Armored distribution cable--two bundles of fine seven-strand copper wire in rubber sheathing packed in jute fill encased in lead with braided ferrous "chinese fingers" outer covering; cover gives it strength under stress (thirteen-sixteenths inch diameter)
	A.M.F65.2	"Greenberg" tar and paper conduit liner; artifact A.M.F65.1, electrical cable, ran inside
Feature 69	A.M.F69.1	Coarse stoneware jar or pot--cover and portion of rim missing; light brown glaze with yellow stripe at rim
Feature 76		Flat window glass and whole bricks and fragments--one with "D B & Co" on front , .66 by .29 by .19 foot; not collected
Comfort Station Area	A.M.CS.1	Direct-burial lead-covered electrical wiring--15 amp, number 14 household wiring, 1/2 by 1/4 inch--twentieth century
	A.M.CS.2	Portion of double in-line insulator, used on an open wire or ladder feeder line; common in the first half of the twentieth century
Comfort station	Vicinity	Ferrous scythe blade, 3.1 feet long by .1 foot wide; not collected
Sewage Disposal Area	A.M.SD.1	Aqua glass soda water bottle embossed "REGISTERED SWITZER BOTT. CO." 7-1/2 FL. OZ. SOUTH BREWER, ME."--had crown cap and two-piece mold (probably a cup-mold)

Table 1: Con't.

Closest Adjacent Area/feature number	Artifact number	Description
	A.M.SD.2	Three-fourths of a hard whiteware bowl; base has "HALL MADE IN USA" in blue lettering
Utility trench -- access road area	A.M.UT.1	Flat glass sherd, 1/4 inch thick. Plate glass or automobile glass
	A.M.UT.2-3	Telephone/telegraph insulator--two aqua glass fragments mend; embossed lettering "NEWENG TE C" with single groove, single petticoat and no beading
	A.M.UT.4	Whiteware, curved vessel sherd
		Ferrous sheet metal, .71 by .93 foot, not collected
		Strapping metal, not collected.
		Piece of 1-inch diameter ferrous pipe; not collected
		Orange brick fragment; not collected

TABLE 2: FEATURES LOCATED DURING CONSTRUCTION MONITORING, 1984-1985

49. *Rectangular depression or cellar 12.5 feet north/south by 14.25 feet east/west, lined with coarse-grained red granite blocks; has a narrow entryway on the south (about 3+ feet across). Adjacent are three linear stone scatters around twenty to twenty-five feet long, a somewhat circular concentration of similar stones, and a depressed area 2.5 feet in diameter by about .5 foot deep containing bricks. There are apple trees near the linear rows of blocks. Just below ground surface, near the road, are two cut granite blocks. Nearby is a lilac bush and an apple tree.

50. *Subsurface patterned brick and mortar--probably part of an electrical manhole.

    (*These two features were also covered in the 1983 testing project; Rhodes and Naglich 1985).

---

51. Rectangular cellar hole 22.5 by 17.75 by 5.0 feet deep, lined with six visible courses of red coarse-grained granite stones. A 3.5 feet wide stairwell descends into the cellar at the southwest corner of the foundation. The depression is filled with trash, grading from modern artifacts on the surface to older items below. The perimeter of the foundation is raised slightly above the existing grade in the rest of the site. Exotic plants--principally daylilies--are growing on the southeast corner of the raised perimeter adjacent to artifact scatters. (Artifacts are listed in table 1.) Two large old trees are found near the road in front of the feature; several cut granite blocks are on the surface nearby.

52. A 3-1/2-inch diameter ferrous pipe about 2 feet below existing grade, angled from northeast to southwest. Adjacent in the trench was an unused red "punkin" brick measuring .18 by .63 by .28 foot.

53. Cast-iron pipe used as an electrical conduit, 6-inch internal diameter, about 1/2 inch thick, held a .1 foot diameter spiral wound steel cable containing lead-covered, rubber encased, copper-clad ferrous wiring. It was perpendicular to the access road at about 1.6 feet below existing grade, 100 feet west of the Otter Cliffs road.

54. Lead-covered direct-burial electrical wiring, 1/2 inch wide by 1/4 inch thick contained two number 14 copper wires in rubber insulation surrounded by jute fiber fill. Probably house wiring; may be associated with 1940s ranger station.

55. Concrete foundations, .8 foot wide, 2.7 feet deep grade into .6 foot integral footings. Extended from .5 foot to about 3.3 feet below existing grade. Both the north/south wall and southwest corner of the structure were intersected by the utility trench. Oriented due north/south.

56. A .5 foot thick concrete wall set at 1.45 feet south of and parallel to feature 55 with fairly loose fill between the two. Top of feature 56 was somewhat further below existing grade than feature 55. Similar in composition to feature 55.

57. An assortment of broken window glass, a rubber knob, black rubber-covered fine wire and an iron rod and copper wire clustered together in an area about 1.5 feet across immediately adjacent to feature 55 at about 8 feet east of the utility trench.

58. Clinker lens, 1.0 foot thick, extending for about 6 feet along the east profile of the comfort station excavation. From .5 to 1.0 foot below existing grade.

59. Two 3/4 inch galvanized iron pipes with an intake valve on the end were on the ground surface, oriented roughly northwest/southeast. They were 22.4 and 21.2 feet long, respectively.

60. Wood charcoal and ash concentration in a lens under an old topsoil level, which is in turn under a heavy green clay level associated with the radio station period. See appendix II for the complete macrofloral report with contents listing.

61. Foundation corner, .79 foot thick, extending from .167 foot to 3.58 feet below existing ground surface. Walls were faced to a 3.25 feet depth on the north/south wall, and 2.83 feet on the east/west wall. The footings were integral to the poured wall, spreading to about .5 foot beyond the wall face. The builder's trench was from .42 to .58 foot in width from a 2.0 feet depth to the bottom; it flared to 1.0 foot or more above that. Oriented north/south, east/west, magnetic.

61-A. Lead-encased electrical cable containing interior fiber and rubber casing around seven-strand copper wire found parallel to the north/south wall of feature 61, .58 foot below existing grade, and 1 foot east of the feature.

61-B. Burned electrical line found in association with features 61 and 61-A at 2.0 feet below existing grade.

62. Corner of brick-lined manhole exposed by backhoe trench for waterline. Bricks are cut on one face, the other bears "D B & CO" in embossed letters. A builder's trench extended 1.42 feet beyond the wall face at a depth of 2.5 feet. Steel railroad rails supported the top of the manhole 1.0 feet below grade.

63. Concrete casing .75 to .83 foot thick by 1.5 foot across connecting features 63 and 65 (manholes). Contains ducts for electric lines.

64. A filled-in, brick-lined manhole that was destroyed during construction. A 1-by 2-foot piece of concrete containing four tarpaper conduits 3.5-inches in diameter was removed from the excavated soils following trenching.

65. Multistrand 1-inch electrical cable found 7 feet west of feature 53.

66. Soil-filled brick and concrete manhole, 2-foot-wide exterior top opening, red brick stepped down away from opening/concrete collar. The metal collar common to the other brick manholes was lacking.

67. Cast iron pipe, 6-inch diameter, running east/west under the north edge of the access road 13 feet southwest of the bend in the waterline trench.

68. Concrete duct, 3.0 feet below existing grade, contained 2 conduits--similar to feature 63.

69. Brick-lined manhole, filled with ash, cinders, bricks, and soil. Connected to feature 7 manhole by concrete duct (feature 68).

70. Cast-iron pipe, 8 inches in diameter. Main distribution line for water system.

71. Concrete chunk containing 1-inch threaded steel rods. May be remains of northernmost spark tower pad.

72. Ferrous pipe, 2-inch diameter.

73. Trench, 2 feet wide, described as "pipe trench" by Seidel (1985b).

74. Concrete slab "roughly the same size as features 18 and 19." May be another part of porch steps/foundation for Barracks B (Seidel 1985b).

75. "Concentration of gravel" east of Ocean Drive in picnic area (Seidel 1985b).

76. An assortment of bricks, granite cobbles, and window glass 7.8 feet north of the access road in fill soils. The orange bricks measured .66 by .29 by .19 foot in size. One has "D B & CO" embossed on face.

77. Cut granite blocks, cobbles, and gravel laid under the roadbed across from feature 51 in a wet area--probably to firm up the road.

78. Foundation, 8 inches thick, with 1-1/2-inch waterline and electric cable running to corner from the west.

79. Ferrous pipe, no measurements reported.

80. Cut-off utility post. Had been treated (creosote?). Post extends 1.4 feet above ground surface, .06 foot diameter.

APPENDIX II: RESULTS OF MACROFLORAL ANALYSIS OF FEATURE 60

MACROFLORAL REMAINS FROM ACADIA, MAINE

Linda J. Scott
Palynological Analysts
February 1986

Identification of Macrofloral Remains

Identification	Part	Whole	Fragment
Charred Remains			
Abies sp. (Fir)	Needle		5
Picea sp. (Spruce)	Needle		15
Conifer	Needle		7
Carex (Sedge)	Seed		1
cf. *Morus* (mulberry)	Seed casing		1
Unidentifiable	Seed		1
Unidentifiable	Seed		3
Unidentifiable	Seed		1
Uncharred Remains			
Prunus sp. (Wild cherry)	Seed		17
Rubus sp. (Raspberry)	Seed	1	
Unknown	Seed		2
Unknown	Seed		1
Bone			1

Notes: The feature sampled appeared to represent historic midden deposits from the 1700s to mid-1800s, some of which were burned. The bottom of the pit contained ash, indicating a thorough burning of the remains. Material above this layer, however, was either partially charred, or uncharred. The majority of the elements of the macrofloral record are uncharred and may represent either material discarded in the midden deposit, or may be present as the result of natural occurrence in the environment. Minnis (1981) notes that uncharred seeds rarely survive more than 100 years in the ground, while charred remains may be recovered after centuries. The uncharred remains from this site, therefore, may have survived from the period of historic occupation, and should be considered as potentially utilized by the occupants of the site. The remains which appear in the largest quantities in this sample are the uncharred *Prunus* seed fragments, and the various coniferous needle fragments. A single partially charred, unidentified, piece of wood was recovered from the feature, attesting to the incomplete charring of the debris. Most of the macrofloral remains recovered from this feature appear to be native to the area. The present flora is a combination of arctic, subarctic, and marine species. A mixed forest dominated by deciduous species is recorded. Larger trees observed in the forest include eastern white pine, white spruce, and an occasional red maple. Smaller trees, which have grown up in the last 70 years, include aspen, white ash, shad bush, big tooth aspen, beech, mountain ash, hawthorn, mountain maple, northern white cedar, and black spruce. A dense understory was noted composed primarily of berry and rose bushes. Apple trees appear in portions of the site, probably having sprouted from seed or old stumps present from past human occupation (Rhodes 1983).

Ethnographic reference to the historic use of three genera follows. Many of the Prunus seed fragments were broken in half. The seeds are small, probably representing a wild cherry. Several species (Prunus pennsylvanica--pin cherry, P. serotina--wild cherry, P. virginiana--chokecherry) are noted to have been utilized both for food and medicinally (Densmore 1974:291; Hedrick 1972:462; Miller 1976:152). The pin cherry, which is noted to grow in Maine, has a sour fruit that has been noted to be both unpleasant and agreeable to eat (Hedrick 1972:462). Three species of Rubus (R. frondosus--blackberry, R. occidentalis--black raspberry, and R. strigosus--red raspberry) are noted to have been used both medicinally and as food (Densmore 1974:292). Hedrick (1972:509-512) notes that the berries are relished wherever they are found. Rubus is commonly observed in the vicinity of the site today, and may be present in the sample from utilization and subsequent discard, or as an element of the natural environment. Morus (mulberry) fruit is noted to have been eaten both fresh and dried or preserved (Hedrick 1972:368-370).

REFERENCES CITED

Densmore, Frances
1974 How Indians Use Wild Plants for Food, Medicine and Crafts. Dover Publications, Inc., New York.

Hedick, U. P.
1972 Sturtevant's Edible Plants of the World. Dover Publications, Inc., New York.

Miller, Amy Bess
1976 Shaker Herbs A History and A Compendium. Clarkson N. Potter, Inc., Publisher, New York.

Minnis, Paul E.
1981 Seeds in Archaeological Sites: Sources and Some Interpretive Problems. American Antiquity 46(1):143-152.

Rhodes, Diane Lee
1983 Archeological Investigations at Fabbri Memorial. Ms. on file with National Park Service, Denver Service Center.

END

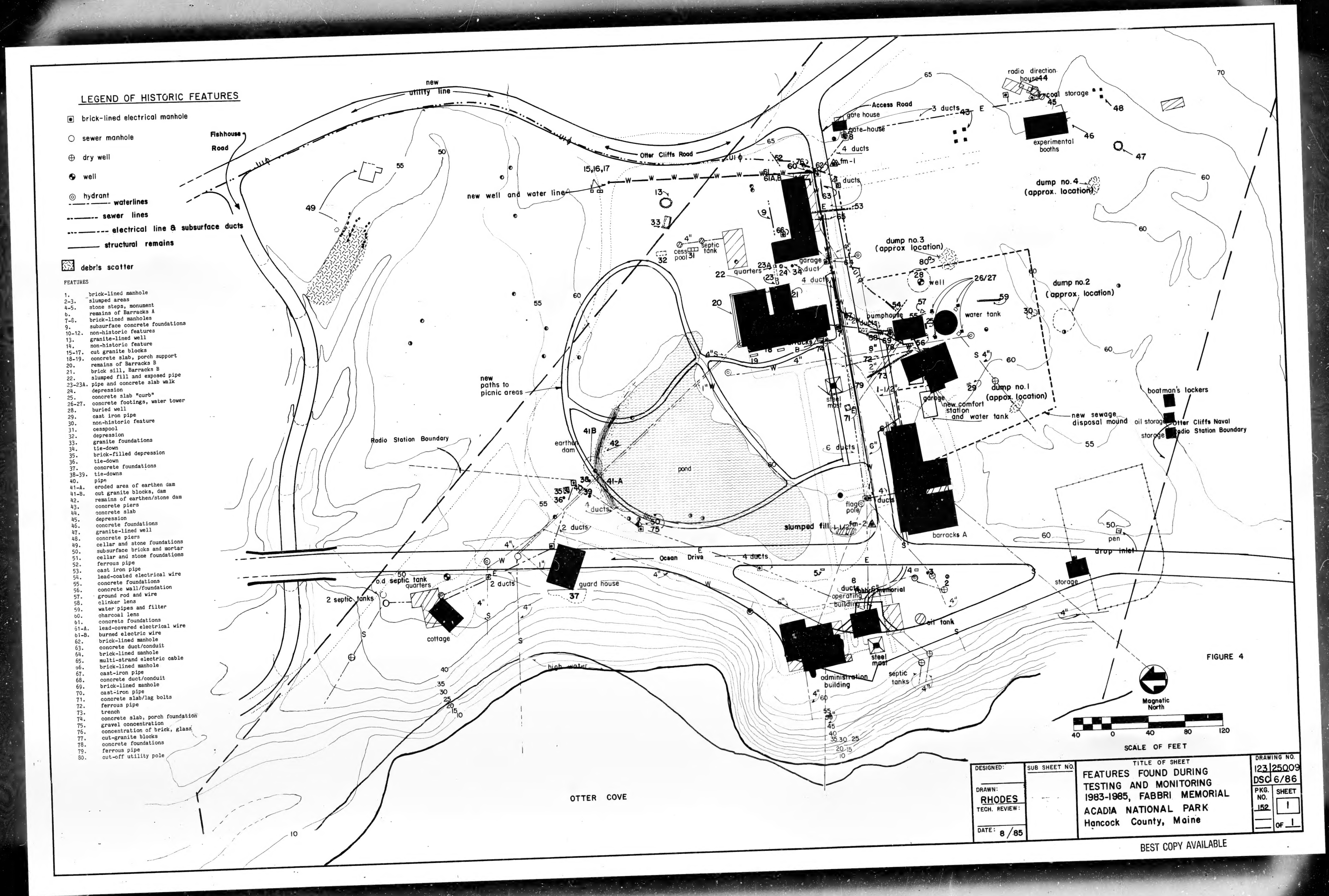
DATE FILMED

08/03/89

I 29.2:AC 1/3

REPORT ON THE 1984-1985 MONITORING OF CONSTRUCTION AT FABBRI MEMORIAL ACADIA NATIONAL PARK, BAR HARBOR, MAINE... U.S. DEPARTMENT OF THE INTERIOR... JUNE 1986

2 OF 2
12.5X
SUPTDOCS/GPO
DRAWING 1



LEGEND OF HISTORIC FEATURES

- ▣ brick-lined electrical manhole
- ○ sewer manhole
- ⊕ dry well
- ● well
- ◎ hydrant
- waterlines
- sewer lines
- electrical line & subsurface ducts
- structural remains
- ▨ debris scatter

FEATURES

1.	brick-lined manhole
2-3.	slumped areas
4-5.	stone steps, monument
6.	remains of Barracks A
7-8.	brick-lined manholes
9.	subsurface concrete foundations
10-12.	non-historic features
13.	granite-lined well
14.	non-historic feature
15-17.	cut granite blocks
18-19.	concrete slab, porch support
20.	remains of Barracks B
21.	brick sill, Barracks B
22.	slumped fill and exposed pipe
23-23A.	pipe and concrete slab walk
24.	depression
25.	concrete slab "curb"
26-27.	concrete footings, water tower
28.	buried well
29.	cast iron pipe
30.	non-historic feature
31.	cesspool
32.	depression
33.	granite foundations
34.	tie-down
35.	brick-filled depression
36.	tie-down
37.	concrete foundations
38-39.	tie-downs
40.	pipe
41-A.	eroded area of earthen dam
41-B.	cut granite blocks, dam
42.	remains of earthen/stone dam
43.	concrete piers
44.	concrete slab
45.	depression
46.	concrete foundations
47.	granite-lined well
48.	concrete piers
49.	cellar and stone foundations
50.	subsurface bricks and mortar
51.	cellar and stone foundations
52.	ferrous pipe
53.	cast iron pipe
54.	lead-coated electrical wire
55.	concrete foundations
56.	concrete wall/foundation
57.	ground rod and wire
58.	clinker lens
59.	water pipes and filter
60.	charcoal lens
61.	concrete foundations
61-A.	lead-covered electrical wire
61-B.	burned electric wire
62.	brick-lined manhole
63.	concrete duct/conduit
64.	brick-lined manhole
65.	multi-strand electric cable
66.	brick-lined manhole
67.	cast-iron pipe
68.	concrete duct/conduit
69.	brick-lined manhole
70.	cast-iron pipe
71.	concrete slab/lag bolts
72.	ferrous pipe
73.	trench
74.	concrete slab, porch foundation
75.	gravel concentration
76.	concentration of brick, glass
77.	cut-granite blocks
78.	concrete foundations
79.	ferrous pipe
80.	cut-off utility pole

FIGURE 4

DESIGNED: DRAWN: RHODES TECH. REVIEW: DATE: 8/85	SUB SHEET NO.	TITLE OF SHEET FEATURES FOUND DURING TESTING AND MONITORING 1983-1985, FABBRI MEMORIAL ACADIA NATIONAL PARK Hancock County, Maine	DRAWING NO. 123 25009 DSC 6/86 PKG. NO. 152	SHEET 1 OF 1

BEST COPY AVAILABLE